# INFANTRY

The Professional Journal For Infantrymen

March-April 1961

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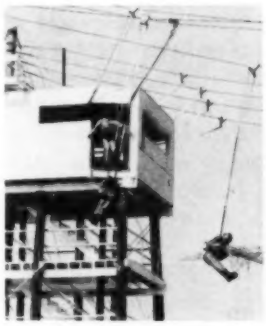

**The Front Cover**

Airborne training, the theme of this issue's cover, points up the continued importance of the airborne soldier as part of the Army's balanced force. See "...Airborne Soldier" in this issue.

# INFANTRY

*The Professional Journal for Infantrymen*

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Vol. 51 March-April 1961 No. 2

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# CAN WE AFFORD PEACETIME ACCIDENTS?

We've noticed in the public press of late several isolated references to training accidents, not only in the Army but also in other Services, and the opinion that sometimes accompanied those stories was a little disturbing. There seems to be a tendency, perhaps natural, to insist that since we are not training for a shooting war at the moment, it can be done without any danger to trainees. Justification for such an erroneous opinion is a bit difficult to fathom. War is something more than a chess game played in the complete comfort of a fireplace, and furthermore, it can start at any instant. We deal in real live people in war, and that is one of the two factors equally affecting all combatants. The other factor is that each opposing combatant is trying his best to destroy the other by any and all means handy. The ultimate winner of this deadly contest is he who subjugates the other, and the loser is more often than not the one who was least prepared for the rugged demands made on the individual soldier.

One way we can virtually guarantee losing whatever war we are thrust into is to teach our soldiers how to shine doorknobs, how to do a smart manual of arms, and how to march in cadence—and *not* teach them that war is one of the most grisly realities to which they can be subjected. One way to keep them alive is to teach, even show them, that they must either know how to survive under combat conditions *or they die.* You cannot give them the feeling and shock of overhead or incoming artillery in a comfortable classroom. You cannot teach them to negotiate swamps, deserts, and mountains in a classroom. You cannot teach them how to live on what grows around them unless they try it. You cannot teach them amphibious techniques in a classroom. They must hear and see artillery by being there; they must try moving in swamps, in deserts, and in mountains; they must use a small boat. During all this somebody may get hurt, but at least they're learning without being shot at by a determined killer.

Certainly, we can and must work to the hilt on accident prevention, just as we do before a 72-hour weekend when we strive to prevent military personnel from becoming a statistic computed in the 400 people who are scheduled to be killed on the "civilized" streets and highways of our country. We do strive to prevent accidents, but we can't *make* people avoid carelessness completely, for after all they are human. If we could, no houses would burn down; no drownings would occur; no pedestrians would be run over. Yet when there is a training accident, the full wrath of public opinion descends to ask "how come?" The anomaly reaches the peak of absurdity when that same military leadership in wartime exposes "fresh, green, inexperienced troops" to the horrors of the battlefield, and the public clamor is deafening. It is not within the realm of our world to eat one's cake and yet have it un-eaten.

Safety practices and techniques must be designed in anticipation of human failure. They must not, however, so detract from the realism and violence of combat that we must, if called upon, send into combat unschooled troops psychologically, physically and mentally unprepared. The American serviceman, and in our instance the American combat soldier, is being trained to defend his country against a wicked, all-consuming disease, and to do this he probably will have to kill somebody in order to save the country. For the love of all that we hold sacred, let's not be trapped into a premise which will not permit us to teach the soldier what he had better know to accomplish his mission and stay alive. When, despite our honest effort to prevent it, an individual is hurt in training, we all should thank God that it was in furtherance of a good cause, that it was vital to the survival of others, and not just useless slaughter comparable to our losses on our highways.—**Editor**

# THE CHICKEN OR THE EGG?

ACRONYMS come and go at a great clip in the military, particularly as they relate to tactical and organizational concepts. A few of the more recent ones include TAPFA, INFANA, ROCID, and MOMAR. Each of these in their turn represented for varying periods of time the forward thinking on organization concepts by a learned and august group of persons. Specifically, however, most were created as philosophies of organization, but each grew into something more concrete and became the source of many a heated argument. Recognize, though, that most of these philosophies tried to resolve the old chicken-and-egg riddle in that they attempted to combine simultaneously the concept that tactics dictated organization, yet directed the acceptance of an arbitrary organization structure which automatically forced a special tactical capability.

The fundamental problem attendant to estab-

lishing a philosophy is that it cannot be interpreted into dollars unless there be possible a statistical picture of it. Again in its turn, each new philosophy was converted into an awesome schematic diagram which could be absorbed, perhaps painstakingly, by the analytical mind. To create a schematic diagram, somebody was compelled to decide how many of what it took to make this "organization" function under a given set of warfare conditions. And, of course, within specific budget and personnel ceilings. At this point the philosophy became too finite, even to the point of being taught in some quarters as probable gospel for a specific calendar year. Naturally enough, not everybody was satisfied, and we suffered internal dissension which led to little of really constructive value.

There is room again for a philosophy of organization, one which is not tied to a schematic diagram, one which requires no non-Army blessing, but one which sets forth basic presumptions under which *any* future organizational changes shall be made. This philosophy must determine, once and for all, the chicken-egg riddle. Originally, tactics did indeed precede organization, and though we seem to have departed from this premise in recent years, we must resubscribe to it if we are to achieve our purpose. We must establish a basic tenet which will then establish requisites for a basic fighting unit. It must tolerate a building up or tearing down or moving sideways in making multiples or composites of this basic unit. But it must start, we feel, with an assumption that the dirtiest, nastiest, most unceremonous type of warfare will be the game we play. From there it must assume that we build a team capable of fighting *that* brand of tactics, and *per se*, anything of lesser caliber.

What *is* it we anticipate, or should anticipate, as the worst possible ground warfare? Whatever it is, let's stipulate that we will play a game just as rough, or rougher, than the opposition. This will develop into something we will call our philosophy. It will define clearly the worst possible battlefield conditions, and it will form the goal toward which our troops are trained. Anything less foreboding than this "worst war" will be gravy.

Once this is defined, then we should approach organization structures with a view of producing a team which has the capability to use the combat power it possesses to the degree necessary to win. And we cannot do this if we don't know what kind of game we'll play, or if we have a rigid team in which we are unable to juggle, shuffle, and re-juggle the players to meet the type of game being played at the moment.

Our initial effort in arriving at this end, therefore, will be the determination, in keeping with the philosophy, of what the basic cell, or building block, should be. This in terms of span of control or whatever else is warranted. Possibly we can develop cells which habitually walk, but which can be joined by wheeled cells or tracked cells or flying cells or big-weapon cells. In this fashion we can create a composite capable of operating at the time, the place, and under the conditions which demand its employment.

If you have any views on this subject that might help the Infantry School to improve Infantry organizational structures, don't hesitate to send them to us.—**Editor**

# Advisory Board

WE HAVE BEEN ASKED TO EXPLAIN what the *Infantry* Advisory Board is and what it does. Readers have noticed that in each issue the names of its members appear inside the front cover.

The *Infantry* Advisory Board consists of twenty-four senior general officers with wide Infantry experience, invited to membership by the Commandant of the Infantry School. The members serve for varying periods so that there is always an overlap among the group when members retire from the Board and new members join.

The purpose of this Board is to enhance the combat effectiveness of the Army by providing the counsel of the wisest and most experienced minds in the Army. More specifically, it advises and critiques the Infantry School on key issues, and it provides guidance to *Infantry* to assist in maintaining its maximum usefulness as a professional journal.

From time to time, the Commandant forwards to the members of this Board articles concerning subjects or ideas on which there is little formal doctrine or on which there is room for appreciable change in current doctrine. These ideas are, in most instances, manuscripts submitted by readers who propose an approach to a problem. The reactions of the members are consolidated where possible, or reported separately in event of wide divergence of opinion, and formulated into a printed article which attempts to treat fairly all aspects of the problem. The one overriding requirement is that the subject area be of abiding interest to Infantrymen at all echelons.

Thus, the *Infantry* Advisory Board serves to help you, the reader, by assisting us at the Infantry School to maintain an equilibrium and an eyes-open attitude toward progress and improvement.

# Soviet Offensive Tactics

Maj William A. Brown

A DISCUSSION of Soviet offensive tactics causes the reader to wonder whether this is the whole story, or just part. It is true that security prohibits the whole story, but this article analyzes those tactics enough to warrant serious study. There is another caution. Just as in our own tactics, the Soviets employ variations, and no pat answer can be provided to give you a succinct but definitive understanding.

Perhaps the best way to draw a comparison between US and Soviet offensive tactics would be to focus our attention on a specific size Soviet unit as it goes through an attack. By observing how this unit carries out its operations, we can better understand what differences in tactical doctrine exist.

As this basis of comparison, look at the mechanized rifle regiment. With its three motorized rifle battalions and its organic artillery, air defense, reconnaissance and tank units, it forms a potent combined arms team. In a typical operation, the regiment would begin preparation for the attack in a *concentration area* located from 15 to 20 kilometers from the FEBA. For a regiment, this concentration area would be at least 10 square miles, with a battalion allotted about 1½ square miles. Here troops are briefed, and, if necessary (as in the case of an attack on a fortified position), rehearsals for the impending operation are conducted.

Approximately two nights before the attack, units move forward into *assembly areas* located from five to seven kilometers from the FEBA. The night before the attack, units move from the *assembly area* into specifically prepared *attack positions* 200 to 300 meters in rear of the FEBA. In most instances this preparation will involve prior construction of troop positions, organization of command posts and a communication system, and stockage of ammunition and fuel. Normally, these forward attack positions will include a vast network of well-camouflaged trenches and dugouts. There may well be two or three major trenches, communication trenches, artillery fire positions, tank dugouts, CPs and OPs, and ammunition dumps. Of course, most of these trenches will have been fully prepared by other than attack troops. When this preparation has been completed, the troops which have been on the front may be relieved as their positions are occupied by the attacking unit. In some instances, the troops formerly occupying these positions will remain in position until the success of the attack is assured.

Once in the attack positions, the attacking units make final preparations and the troops are oriented on the location and strength of enemy positions opposing them. The Soviets in forward positions place great emphasis on pre-attack reconnaissance, trying to determine the exact location of enemy bunkers, obstacles, and weapons and troop positions. At the company level, a personal reconnaissance is made by the company commander,

platoon leaders, and commanders of reinforcing units so that by H-hour they will have a detailed picture of the enemy and the terrain over which the attack will be conducted.

This reconnaissance effort will be made on a wide front. It may include a reconnaissance in force conducted by infantry, tank, and engineering units supported by artillery, and is usually performed in the evening of the day preceding the attack, at night, or even in the morning immediately before the attack. In the course of this combat reconnaissance, the Soviets attempt to capture prisoners to gain more detailed information of the opposing defenses.

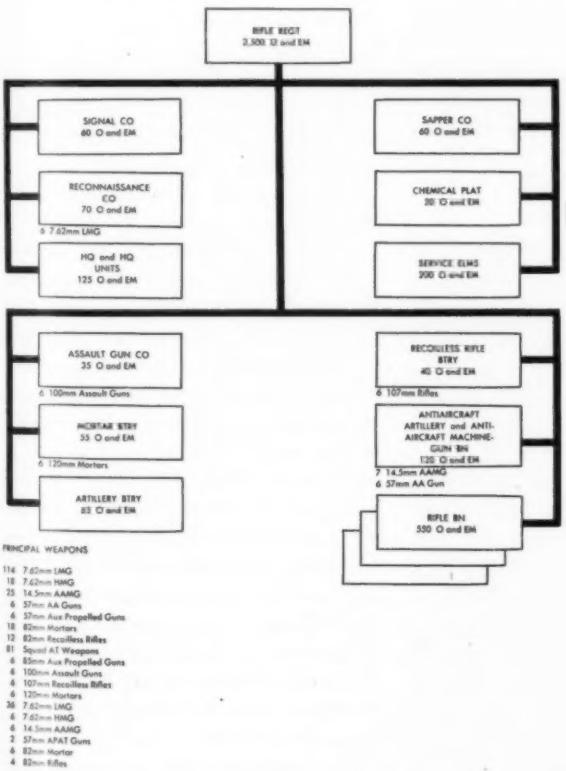
Essentially this completes the preparation for the attack. The steps are simple and logical in their sequence. In some cases, units may vary from this sequence and occupy positions later than indicated above, but in any event movement will be accomplished at night or during poor visibility. Great effort will be made to cover troop movements and other preparation activities by artillery fire, air strikes, and similar actions.

During the night preceding the attack, engineers cut gaps through obstacles, and at a designated time prior to the attack (usually anywhere from 40 minutes to 3 hours), the artillery preparation begins over the entire depth of the enemy position. Current Soviet doctrine envisions that the artillery preparation requires 200 to 250 guns concentrated on each kilometer of front. A good share of this artillery strength is in mortars and multiple rocket launchers which, although not as accurate as other artillery, provide great area-fire capability.

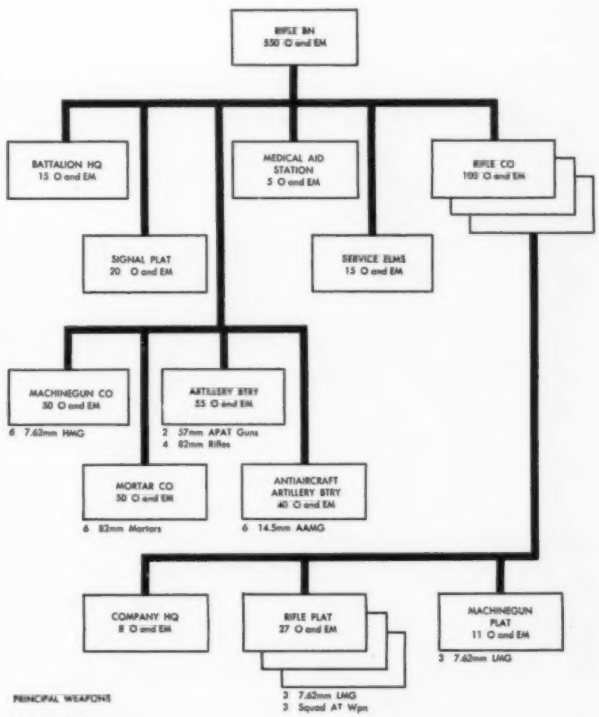
Soviet tactical air force elements organic to army ground forces also participate in the preparation by destroying heavily fortified positions, enemy reserves out of artillery range, supply dumps, enemy artillery and command posts, and other lucrative air targets. The greatest air effort is made 10 to 15 minutes prior to the ground attack against targets most likely to impede this attack.

During the final 15 minutes of the preparation, direct fire artillery, which has been previously dug in on the attack position, opens fire on the enemy position. Approximately 15 to 25 direct fire artillery weapons are employed on each kilometer of front, and these weapons intensify their rate of fire to three or four times the normal rate of fire. Thus, the final fire assault throws out a thunderous preparation designed to allow the uninterrupted approach of tank and infantry elements to the *assault position*. When the air and artillery preparation is completed, infantry and tanks commence the assault from this position.

In most instances the Soviet at-




**Rifle Regiment, Rifle Division**




**Rifle Battalion, Rifle Division**

tack will consist of tank elements closely followed by dismounted infantry, self-propelled assault guns (similar to tanks except that they have a fixed turret), and direct fire artillery. In essence, the entire attack is echeloned, with the regiments attacking in two echelons (two battalions up, one back); the battalions attacking in two echelons (two companies up and one back); and the companies also attacking with two up and one back. This is not a fixed rule, but echelonment is considered to be a standard procedure. In any formation, however, each echelon includes elements of artillery, tank, and antitank defense units.

One point of interest in this formation is that they do not have a reserve as we know it. Their second echelon could be considered, in a narrow sense, to be a reserve; however, it is not a true reserve inasmuch as the second echelon is usually given a specific mission and direction of attack prior to the beginning of the attack.

Regardless of the number of echelons employed, at the lower echelons the Soviets conduct the attack essentially as a frontal attack or breakthrough. They attempt to break open the enemy defense to facilitate a close envelopment or, if great success is achieved, a deep envelopment. The close envelopment is designed to outflank and eventually encircle the forward enemy forces. The deep envelopment is not as closely coordinated and allows the tactical commander to make the most of the tactical situation. As in our tactics, the Soviets attempt to find an accessible flank to attack, and, whenever possible, they envelop or bypass strongly held areas. In most cases, however, the attack will be made frontally with most of the combat power in the first echelon.

To achieve a high probability of success, the Soviets attempt to gain at least a three-to-one ratio of combat power superiority over the enemy. Where this three-to-one superiority is achieved by a preponderance of infantry and tank strength, a corresponding superiority of seven-to-one in artillery and mortars is also attained. To assist them in gaining this superiority in combat power, the Soviets commit their units on relatively narrow frontages. For example, in a breakthrough the regiment will normally attack on a frontage of 700 to 1500 meters, with battalions having a 500 to 700-meter zone of attack. Further, whenever possible, the Soviets direct their main effort against a weakly protected enemy flank, a junction of units, or against a weakly held sector. Frequently they will also enhance their relative combat power by attacking over difficult terrain (swamps, forests, etc.,) where an attack would seem unlikely. As the Germans learned during World War II, the Soviets will not always use classic avenues of approach but will achieve surprise (an important element in their tactical doctrine) by attacking at unexpected times and from unexpected directions.

Direct fire artillery is kept well forward and used in support of attacking troops.

The total offensive effort of the Soviet regiment, considering its narrow zones, extensive fire support, and overwhelming tank and infantry strength, resembles a huge steamroller which is designed to flatten out the enemy defenses. Although this "steamroller" places great combat strength at the point of decision, the tactics are not the "human sea" tactics so much in evidence during World War II. In fact, quite the opposite is true. Every component of the attack, every unit and weapon, has a specific part in the Soviet offensive pattern. There is nothing hit-or-miss about the Soviet attack. It is carefully planned in exact detail so that the procedure for capturing each trench, position, and point of resistance is precisely prescribed. Because of this, each unit becomes, in effect, a mechanical part of the huge steamroller.

To see how this steamroller is put together, let us continue with

the pattern of the regimental attack and follow it to the initial objectives. By narrowing our sights on a single battalion of this regiment we can gain an even clearer insight into how the Soviets put the pieces in their offensive puzzle together.

With a battalion attacking on a 700-meter frontage, the attack would follow this general sequence. After the artillery and air preparation is completed, tanks and infantry move forward as a combined arms force. Tanks may precede the infantry (not more than 200 to 400 meters ahead) or they may move forward as a single element. The Soviets calculate the distance from tank to tank in combat to be 30 to 50 meters. The normal density of tanks in one line is 20 to 30 tanks per kilometer of front, which means that they could have approximately 10 to 15 tanks attacking with each rifle battalion. In event of a major reinforcement with tank units, the tanks would advance in two or more echelons which, according to present Soviet doctrine, should give a density of 30 to 70 tanks per kilometer of front in the breakthrough sector. It is interesting to note that these attacking tanks are not considered as a primary antitank weapon, but rather are used in a primary role of supporting infantry. After the preparation has ceased, tank and infantry elements that have reached the assault position commence their assault simultaneously along the front. All movement forward is accomplished rapidly to destroy the enemy before he can recover from the effects of the preparation. The rifle companies, attacking on a frontage of approximately 350 meters, are preceded by rolling artillery barrages which facilitate their advance.

Barrages are subsequently shifted as tank and infantry elements overrun enemy defenses. The Soviets use a unique system of phase lines to control the shifting barrages. The basic barrage phase lines are located 200 to 400 meters apart, with intermediate lines located every 100 meters. On signal from attacking infantry units, the fire shifts from phase line to phase line.

**The 82mm recoilless antitank gun is organic to both the rifle regiment and rifle battalion.**

When attacking elements encounter strong points of resistance in the enemy defenses, these are bypassed and sealed off, and their liquidation is left to the following echelons. Frequently the follow-up echelons are given this mission and accomplish it by attacking strong points from the flanks and rear.

At this point, the forward attacking elements may drive to the flank to envelop forward enemy defenses, or they may continue to drive toward the enemy rear. Success at any point is exploited by advancing Soviet units. Frequently the Soviets will use guerrilla action or shallow airborne or airmobile operations to assist their ground attack. Smoke may also be employed to shield operations of advancing units. Every weapon and every capability of Soviet units is exploited to accomplish the mission.

This, then, is how the Soviet units attack. It should be borne in mind that this is only a general picture of some of the offensive tactics employed by Soviet units. It is not intended to be all inclusive nor is it intended to show

**Every weapon, such as this 120mm mortar, has a part in the Soviet offensive pattern.**

every aspect of an offensive operation.

The frontages and depths portrayed are not rigidly adhered to by the Soviet Army. These will vary, as in our army, with the mission, the situation, the enemy, and the terrain. For example, against a hasty enemy defense, the frontages may well be wider than those portrayed.

If there are any weaknesses in the Soviet offensive pattern, they would seem to lie in the extreme concentration at the point of decision and in the tendency to restrict action of subordinate commanders. Although there is no obvious attempt to discourage initiative on the part of tactical commanders, it is there nonetheless. A study of Soviet tactics reveals that this weakness was evident during World War II and still remains today. Whether these weaknesses will continue to exist, of course, is problematical. The important point to remember here is that the Soviet Army has come a long way from the "horse cart" army of 1941-42. With its great wealth of manpower, modern equipment, and simple but effective tactics, it represents a considerable military force in today's troubled world.

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MAJ BROWN was commissioned in 1945 through Infantry OCS. Overseas assignments have taken him to Panama, Korea and Germany. In CONUS Major Brown has served as a company commander, Assistant Inspector General and as assistant G3 in Second Army Headquarters. At the present time he is assigned as an instructor in the Command and Staff Department, USAIS.

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• I noticed a short article (Oct-Nov issue) concerning the recently activated Infantry Museum. I am deeply interested . . . in this fine activity, but . . . have little else than moral support to donate . . . Is the museum in need of . . . financial support, and if so how may I help?

Ronald Mallis
400 West Broadway
Cedarhurst, Long Island

*The Infantry Museum Council, to whom your letter was sent for reply, states that under provisions of AR 230-5 the Museum may not solicit any donations of money or other negotiable instruments. However, the Museum is authorized to accept unsolicited donations of money provided no stipulations are made by the donor. The address: United States Army Infantry Museum, Fort Benning, Ga.*—Ed.

• I have just finished reading an article entitled INFILTRATION, in the August-September *Infantry*. It is very thought-provoking, and well worth the attention of the Army.

I know the author, Major Gordon Sumner Jr., and believe that his statement, "During my brief sojourn as a prisoner, and later while recuperating from wounds, frostbite and pneumonia" should be elaborated on sufficiently to give a better picture of the circumstances, as a casual reader might conclude that he surrendered. Such was not the case.

After considerable bitter fighting he was left wounded and unconscious on the battlefield when our troops withdrew. On regaining consciousness he "played possum" until a counterattack by our troops regained the ground on which he lay, and he was evacuated and hospitalized. His gloves, hat, and dog tags had been removed by the Chinese, but his parka was so covered with blood that they did not see fit to remove it for their own use. In justice to Major Sumner the readers of *Infantry* should have the facts of the case. He did not surrender.

Major General Orlando Ward,
USA Ret.
1133 East 3rd Avenue
Denver 18, Colorado

• Recently I ran across a copy of Infantry magazine. After reading it I looked forward to seeing the next copy. . . .

. . . Having read the many articles, I noticed that all the authors were commissioned officers and even all the letters to the editor were signed by officers with the exception of one NCO.

Being a draftee and with only 18 months left to serve slightly limits my capacity to become qualified to offer manuscripts to your magazine . . . however, I would like to know if you do accept work from enlisted men.

I have written and had published only a few articles to this date, however, several of the topics you invited people to write about . . . interest me very much.

Pvt Angus N. Logan
Combat Support Company
2d BG, 8th Infantry
1st Infantry Division
Ft Riley, Kansas

*The fact that we have so few enlisted men as* Infantry *authors has been a matter of grave concern to us for some time. We have used all the means at our disposal, including solicitation in* Infantry *and through letters to the field, to acquire manuscripts of this type but have had little success. We, of course, cannot print what we don't have.*

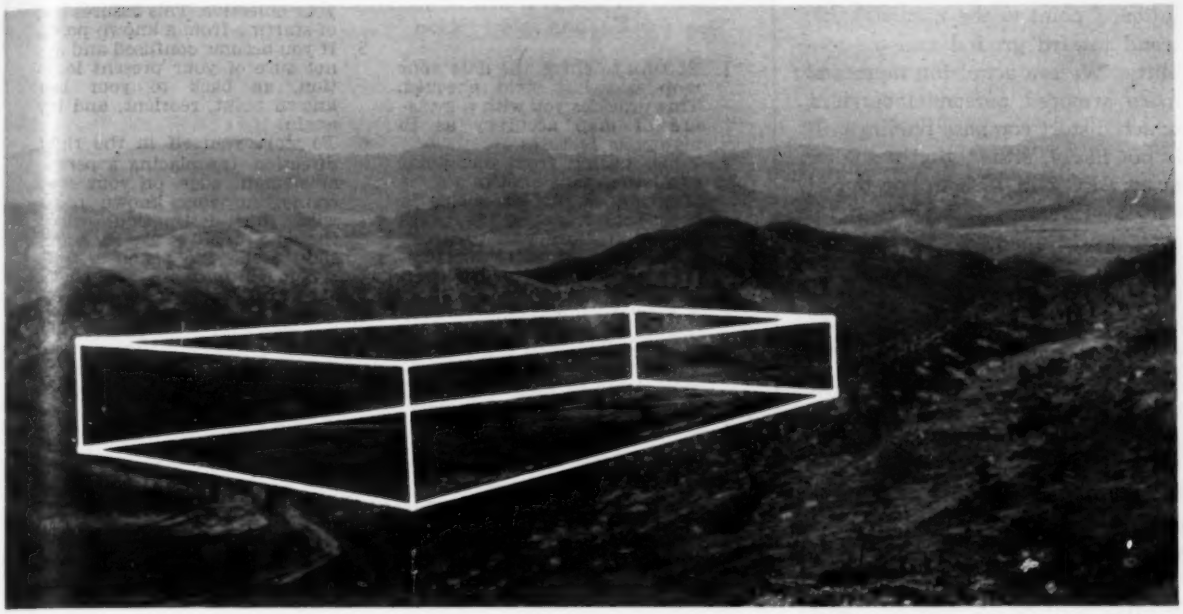
*The practical knowledge possessed by our noncommissioned officers which was gained through years of experience is something that would be invaluable to all of us.*

*We would be delighted to see the situation described in Pvt Logan's letter change and a proper balance established between articles authored by enlisted men and those by officers. Potential authors please see the lower left portion of page 1 for information concerning the submission of manuscripts.* —Ed.

• I read with great interest Captain Fred A. Darden's "More Time for Sergeants" in your last number and I hope that it will receive earnest attention at the Pentagon, Fort Monroe and all down the line.

To everything that Darden said, let me add: "Amen!" He has illuminated what I have long regarded as a critical weakness in our shaping of an army. Part of this is no doubt a personal prejudice deriving from my own life and military experience. Perhaps uniquely, at the time of my retirement in August, I could look back and thank God that when I first joined the army, it had time for sergeants and it did not neglect their schooling. Otherwise, my connections with the army would have become brief indeed. The only schools I have ever attended in the service opened to me when I was wearing a sergeant's stripes. After I became commissioned, something else always intervened to keep me from formal schooling as an officer. So on the blank spaces where we fill in our military educational attainments, I was, until the end, unable to claim

(Continued on page 38)



# BOX YOURSELF IN

HAVE you ever wondered how, during the Civil War, our military units found their way over long distances with such a high degree of accuracy? Or how wagon train guides of pioneer days found their way over trackless and uncharted wastes? Certainly they did not have the highly developed navigational aids and instruments available to us now. Their maps were, at best, terrain sketches. Their compasses were not accurately balanced. There were few railroads and fewer highways to form guide markers. What, then, contributed to their success?

Scientific analysis has pretty well ruled out the idea that some persons have a "sixth sense" for direction. Instead, the indications are that some people, because of a *need* to understand these things, were alert and fully aware of their surroundings. They were cognizant of the many navigational aids pro-

1st Lt Richard J. Kattar

vided them by nature alone. Nature has not changed her ways, but it is apparent that people have changed. With superhighways, city streets and railroads, all ubiquitously marked by signs, the modern soldier, before entering the Army, has little need to worry about nature's guideposts. All he must do is read. When deprived of manmade signs, however, he flounders. In military ground navigation exercises, he manages to become thoroughly lost in a 500-meter strip of Fort Benning, in spite of having a compass and the best maps that the Army Map Service produces. I often wonder what these same men will do in the wilds of some foreign country, unable to use the manmade signs so common in our everyday life, fighting an enemy skilled in using the signposts of nature, terrain features. It could be a fatal fiasco.

To those who advocate complete

reliance upon the compass as a solution, I point to the unmistakable trend toward ground and air mobility. We are acquiring more and more armored personnel carriers, which distort compass readings. It is not likely, either, that a soldier in an APC will wish to hop out at varying intervals just to read his compass. And if he could, the compass would still not tell him how far he had gone. Finally, the vehicle itself cannot always follow direct lines from point A to point B, and will usually be required to take more circuitous routes than a man on foot. Compasses, which are difficult enough for people to manage on foot, would pose even greater difficulties within a closed vehicle.

On the other hand, to those sporting individuals who say that the compass is unnecessary to a trained woodsman, I call to your attention the repetitive monotony of the Korean hills or the South Pacific jungle, where every prominent natural feature looks just like the one you passed a few minutes ago. No, the compass is a requirement to assist the ground soldier in these places. Besides, as I have said, there are too few trained woodsmen in our country nowadays to suppose that our soldiers can entirely rely upon nature to guide them.

Let us see, therefore, how we can learn to use all of the three major navigational aids — a map, a compass, and nature — in concert. By "nature" I mean basic ground forms and features such as hilltops, ridges, valleys, streams and saddles. They provide just as accurate a guide to movement as do highways or railroads. In fact, these signs are, in many respects, better than maps, because the traveler sees them as they are at the moment, not as they were when the map was produced. Recall military operations a hundred years ago. The following basic steps were successfully employed then, and may be used today, with a few minor modifications in recognition of improved maps and development of the lensatic compass:

- Know your location on the map as well as on the ground.
- Make a map reconnaissance. Plan your route, determining direction, distance between prominent terrain features, and such changes in direction as may be necessary.
- Start moving, noting *direction* (by map-compass orientation), *distance covered* (by any of several expedients), and, most important, noting *differences* in elevation, and route-confirming *features*.
- Confirm your location at the destination by terrain association.

When selecting a route, choose one which affords prominent terrain features by which to guide and maintain direction. Without these features you may be unable to confirm your position. Keep in mind that you probably cannot follow a line-of-sight or direct route from start to finish; therefore, you will want to divide your route into several segments which are themselves dependent on the principal terrain check points you select.

During your movement, remain oriented with both your map and the ground. Keep track of distance traveled by pacing or odometer. If you have trouble keeping track of your pace counting, place a pebble into your pocket at each fifty or hundred paces. Simple arithmetic will keep you straight. You need retain this count only between terrain checkpoints, not for the full distance.

What's the best route to follow?

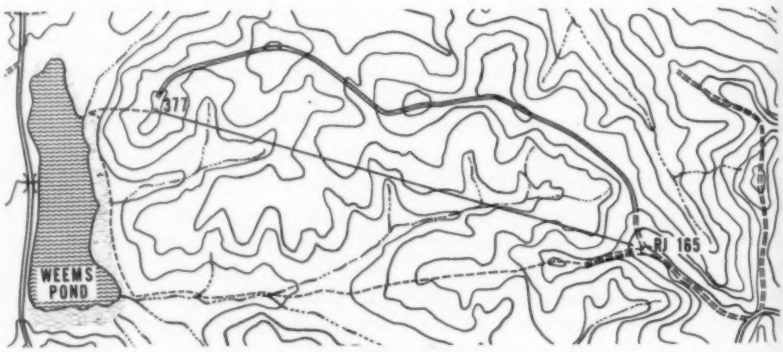



Figure 1

### Tips for Ground Navigation

1. Be sure to check the date your map was last field checked. This provides you with a measure of map accuracy as to manmade features.
2. When pacing from one point to another, tie a knot in a piece of string, or place a pebble in your pocket, every 100 paces to keep track of your progress.
3. When attempting to locate a specific point (in a valley), you will find it much easier to travel from high ground down to your point.
4. If there is a Bench Mark, Horizontal Control Point, or prominent hard-surface, improved road junction in your vicinity, find it, plot it, and proceed to your objective. This assures you of starting from a known point.
5. If you become confused and are not sure of your present location, go back to your last known point, reorient, and try again.
6. To start yourself in the right direction, try placing a pencil or straight edge, on your map connecting your known point with your destination, orient the map, lift it to eye level and sight along the pencil.
7. When contouring a ridge, you can maintain your sense of direction at night by remembering which of your legs should be on the uphill side of the ridge.
8. Last, but certainly not least, keep your map oriented to the ground at all times.

Several factors bear upon a choice of routes. Let me illustrate by an example which uses the sketch map in Figure 1. Assume that you are at Road Junction 165, and that your mission is to move to Hill 377. There are, of course, many ways to travel; so let's compare fairly representative ones in light of the basic techniques we have discussed.

Route 1 (solid line) proceeds directly northwest on a compass azimuth to Hill 377. It is certainly the shortest route, but it also traverses the roughest terrain. We would be compelled to cross at least five valleys, each apparently vegetated, and each beset with steep embankments. It would be difficult to determine the distance to be traveled, since a flat map distance obviously does not account too well for rise-and-fall distance. Even if we could overcome those problems, how would we recognize the fact that we have or have not arrived at Hill 377? At best, the problem is not easy to resolve.

Route 2 (dashed line) moves west along the ridge which drops into a valley and leads to WEEMS Pond. From there it goes north to a point where a creek drains into the pond. Then the route proceeds uphill to Hill 377. There are adequate check points along this route, and it is a fairly simple matter to remain oriented by terrain features until you leave the ridge and enter the valley. From that point on, however, there is little else to guide you until you reach the pond. Furthermore, when you seek the creek entry, you may find that this year it has dried up and is difficult to find, or that the entire pond area has become flooded and is a marshy bog.

Route 3 (double line) proceeds north and northwest along a ridge until it arrives at Hill 377. It is not the shortest way (in distance), but it has numerous terrain features to guide by. Direction is maintained by simply staying on the ridge, which has our principal check points. The terrain is no more difficult than Route 1, and potentially less difficult than Route 2 insofar as keeping track of distance traveled is concerned. Because it remains on the higher ground, it might very well be less thickly vegetated than either of the other routes. Lastly, if we deviate accidentally to the right or left, we will recognize the fact that we are doing so much more quickly than we would in the valleys of the other two routes. In fact, this is the key to the superiority of this route. It might be termed "boxing yourself in." If you know you shouldn't be crossing a river or a ridge, and you're suddenly confronted by such a feature, you know that you've deviated from your course. If you start climbing or descending when your reconnaissance indicated you would stay on the level, then you know you're wrong again. You have, in effect, boxed yourself into the proper route by using the terrain itself as a control.

The late Harold Gatty, brilliant navigator for Wiley Post in his pioneering flight around the world, once observed that "in the process of evolution of our civilization, we have lost something which was a matter of life and death to the primitive; that is his highly developed powers of observation — his ability to draw a mental map of the major terrain features and landmarks between himself and his destination."[1] Let us hope that our improving ground navigation training will help restore man's original natural ability to find his way, with the help of beneficent nature.

*This article is in consonance with current doctrine as taught at the United States Army Infantry School.* —Editor.

1. *Nature Is Your Guide*, Harold Gatty, E. P. Dutton & Company, Inc., New York, 1958.

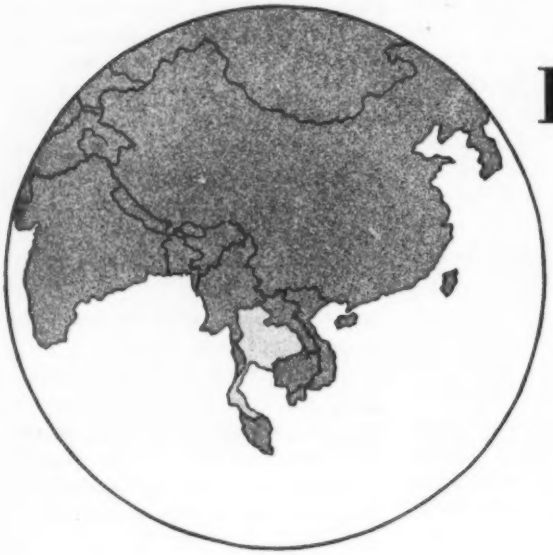
# WHO'S WHO

We here at *Infantry* frequently receive correspondence and inquiries concerning *The Infantry Journal*. However, that fine magazine no longer exists. It was published for many years by the United States Army Infantry Association, and faithfully performed a mission similar to that which *Infantry* (and only *Infantry*) performs today. When several branch associations merged to become AUSA, *The Infantry Journal* became the *Combat Forces Journal*, then *Army* Magazine. Furthermore, its mission and emphasis changed radically as, in keeping with its Army-wide circulation, *Army* could no longer restrict itself to the technical and professional knowledge offered previously in the *Infantry Journal*.

But *Infantry* is proud of its ancestry, too. *The Mailing List*, nursed through its early years by the then Lieutenant Colonel George C. Marshall, served during the period between the world wars as an invaluable source of knowledge, bringing Infantry School instruction to thousands of officers and men scattered around the world. In 1947, the advantages of a magazine-type format became apparent, and the *Infantry School Quarterly* was born. Ten years later, the name was changed to *Infantry*, although it was still published quarterly until the Fall of 1959, when it began its bi-monthly schedule.

Thus, *Infantry* and the late *Infantry Journal* are not related except to the extent that they are kindred in spirit and philosophy. Inquiries concerning the *Infantry Journal* may therefore best be sent to *Army* Magazine, 1529 18th Street, N.W., Washington 6, D.C. Questions about the *Infantry School Quarterly*—or *The Mailing List*—will be gladly received by us in care of EPO, USAIS, Fort Benning, Georgia.

# THAILAND—



# LAND OF FREE PEOPLE

Capt Dale E. Jenne

RECENT communist activity in Laos has once again focused world attention on Southeast Asia and its political, economic and military importance to the free world. One of the most important nations of this area is Thailand, which borders Laos to the south and west. Formerly called Siam, Thailand today is a nation with more than 20 million people. It is situated in the center of Southeast Asia, sharing borders with Cambodia, Laos, Burma and Malaya. In the language of the country, *"Thai"* means *"Free People,"* but the proximity of Red China, 150 miles to the north, casts a shadow over the Thais' status as free people. The situation is brightened only by membership in such alliances as SEATO. The country is 1100 miles in length from north to south, and varies from about 15 to 480 miles in width. From the standpoint of topography, climate, and populace, Thailand can be divided into four general regions (see Figure 1): Khun Muang (northern), Central Plains, Korat Plateau (north-western), and the Peninsula. Natives of these regions can be distinguished by variations in dress and dialect.

The Khun Muang region in the north consists of mile-high mountains bounding deep valleys. The two principal valleys are those of the Ping and Nan Rivers. The valley of the Ping is the largest and has the principal city of the region, Chieng Mai. The mountain ranges and drainage systems run from north to south, creating natural avenues for invasion from the north. The rivers all feed the Chao Phraya River and eventually empty into the Gulf of Siam at Bangkok. The rivers are used as a means of delivering large teak logs to the market at Bangkok. In the heyday of the surface navy, most of the decking for our fleet's battleships originated in this region. The Ping River, chief tributary of the Chao Phraya, flows through Chieng Mai and irrigates the rice paddies of the valley. Its headwaters are near the northern border, and it runs 300 miles south to the Chao Phraya.

The routes of communication are still somewhat limited in this region, although steady improvement is being made. The narrow gauge, single track railroad terminates at Chieng Mai, a 24-hour ride from Bangkok. A highway from Bangkok extends to the northern border, but it is poorly maintained and is not a good all-weather route. Side roads from the highways are few, and four-wheel drive vehicles are necessary to negotiate these. Air is by far the best means of transportation in Thailand, but here again complete service is lacking because of limited facilities. North of Chieng Mai there are not even emergency landing strips. As in any area where the principal crop is rice, there are many places helicopters or parachutists could land, but paddy dams would restrict use of fixed-wing aircraft. Off the road, operations for armored or other heavy vehicles would be extremely difficult and would require a very thorough reconnaissance prior to any such attempt.

The Thais do not find it necessary to extend their crop acreage beyond the valley floors and, as a result, the mountain slopes are cov-

ered with dense virgin jungle which includes impassable bamboo thickets. Near the crests of the higher mountains scrub pines also appear, but they have no timber value. Scattered banana trees may be found, as well as illicit opium-poppy cultivation.

The climate of this northern region is the most pleasant in the entire country. The seasons are termed "dry" and "rainy." Even in the dry season, the heat of the day gives way to comfortable nights on the valley floors. while in the mountains the nights are quite cool during even the hottest part of the year. The rainy season is the stay-at-home part of the year. Travel over land is quite hazardous at this time because of extreme flooding of the roads. Rains lasting several hours often appear without warning, causing rivers to rise as much as twelve feet overnight, inundating miles of rice paddies and stranding travellers.

The Central Plain of Thailand, which opens from the valleys of the north, is almost flat from the mountains on the west border to the Korat Plateau in the east. The difference in elevation from the northern end of the plain to sea level at Bangkok is only 150 feet; this, of course, causes the rivers to be sluggish and easy to tap for irrigation. The whole area is one continuous rice paddy, appearing from the air to be a vast lake with tiny islands of villages on it. This area is the most heavily populated and extensively cultivated in Thailand. The principal city of the region is Bangkok, the nation's capital and a rapidly growing metropolis of about 900,000 inhabitants. It is highly westernized and has the most modern airport in Southeast Asia. Known as the "Venice of the Orient," Bangkok is laced with canals siphoned off the Chao Phraya River. Much of the intra-city business, transport, and living is done on these "klongs." Unfortunately, they have disadvantages which make them worrisome to visitors and residents alike, serving as a home for poisonous snakes, a breeding ground for mosquitos, and contributing to Bangkok's unpleasantly high humidity.

From Bangkok, the commercial lifelines of the country radiate outward to the north, northeast, and south. For this reason, it is said that the faction which controls Bangkok controls Thailand, as has demonstrated in a number of "coups d'Etat" since World War II.

The poorest region of Thailand is the Korat Plateau, to the east of the Central Plain. The plateau itself has an average elevation of 600 feet and is practically level. Rainfall is sparse in this region—less than 20 inches a year—and extensive irrigation is necessary for support of the rice crop. Usually the rice crop in this area is such that a small amount can be exported, but during years in which rainfall is less than usual, rice must be imported from the northern and central regions. There is a budding of industry in the city of Korat in this region which alleviates the overpopulation of the rural areas somewhat and permits more efficient utilization of the arable land. Drainage of the plateau is to the east, feeding the Mekong River, seventh longest in the world. This river also serves for much of its length as the border between Thailand and Laos. This area is strategically important, as is the northern region, because of its proximity to Laos, where the overt communist activity in Southeast Asia seems to

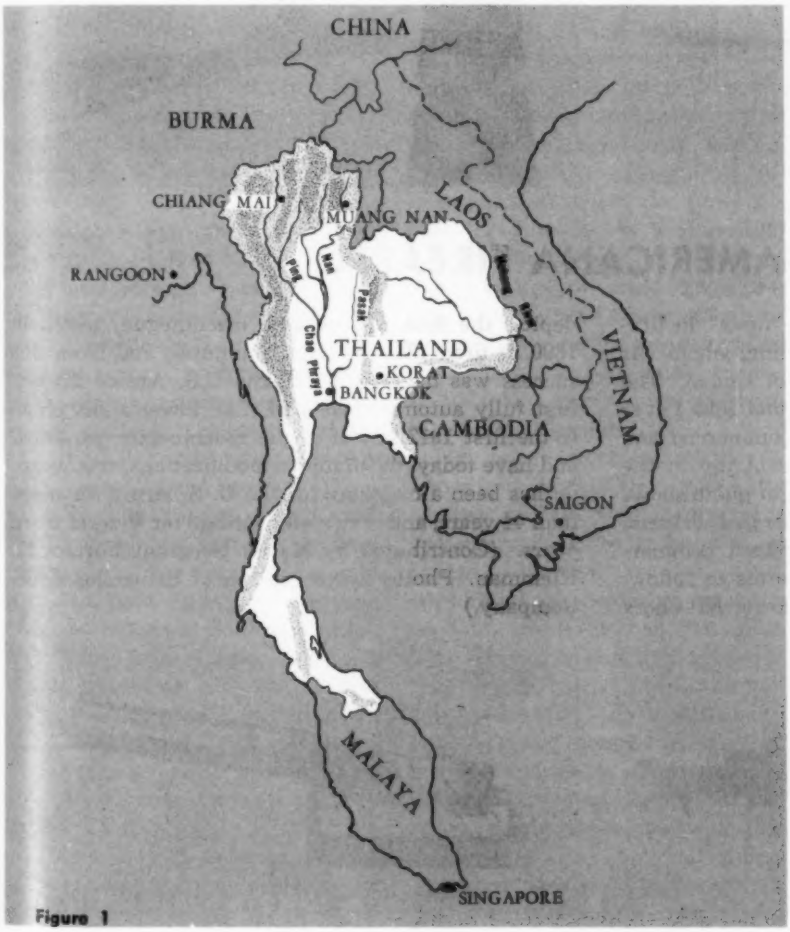


Figure 1

be strongest at this writing.

Thailand extends southward approximately two-thirds of the way down the Malay Peninsula and is, as the British discovered to their embarassment in World War II, an invasion route to Malaya and the key city of Singapore. The border with Malaya has also served the communists of that country by providing a safe retreat for them in their fight to wrest control of Malaya from the British in the ten years following World War II. The thick vegetation of the region worked to the communists' advantage, allowing them to slip across the border undetected and vanish in the jungle, reappearing when pressure was slackened.

Fishing is the chief industry of the coastal region, although there is some mining conducted for tin and other metals. Both the railroad and the highway from Bangkok extend into Malaya, terminating at Singapore. The peninsula has a rainy season lasting seven or eight months of the year; annual rainfall is in excess of 80 inches.

In the Southeast Asia Treaty Organization, Thailand has a key position as a centrally located member. It is another link in the chain of free nations surrounding the communist block. Should this chain fail, it is not unlikely that United States forces would be committed in Thailand much as they were in Korea. However, of all the links in this chain of defense, Thailand, "Land of Free People," seems to be one of the least likely to break.

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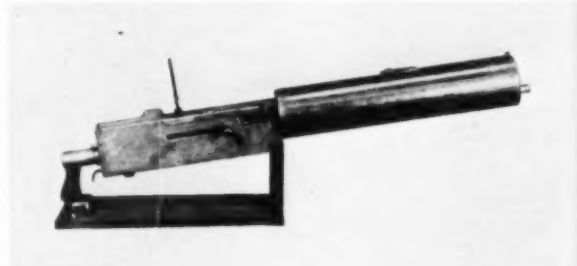
CAPT JENNE, a 1954 graduate of the United States Military Academy, served as an advisor in the Far East Command with the 8706th Duty Unit from 1955 to 1956. His other assignments include tactical officer, S1 and S3. A graduate of the Advance Course, Captain Jenne is Commanding Officer, Company E, 2d Airborne Battle Group, 501st Infantry, 82d Airborne Division, Fort Bragg, N. C.

## MID-AMERICANA FIREARMS

Surrounding this caption are four "firsts" in firearms, all invented by John M. Browning, whom our contributor describes as the Wizard of Ogden. The upper left photo is of Browning's original 1895 Lever Action Repeating Rifle, sold in both commercial and military versions. It was used by the Army in the Spanish-American War. The upper right photo shows the first successful automatic gas-operated firearm, tested in 1889. Although never produced commercially, it was the basis for many firearms to follow. It could fire 16 shots per second. The lower left photo depicts the first gas-operated machinegun, tested in 1890. It fired 1800 shots in 3 minutes, and from this success was developed into the U.S. Armed Forces' first fully automatic weapon. The lower right photo is the first 1917 model of the machinegun we know and have today. With minor modifications, this weapon has been a mainstay for the U. S. Army for more than 44 years, and may well continue for several more years. (Contributed by Master Sergeant Forrest K. Kleinman. Photos by permission of Browning Arms Company.)



# The Decision Is Yours

*Second of a Series by*

*Capt Louis C. Menetrey*
*& Capt Winfield A. Holt*

THE COMMANDER studied a map that was creased and grimy from many nervous foldings and unfoldings. At the briefing, when the "Old Man" gave him the map, it had been clean and clear, the symbols standing out in proud relief. Back at the briefing, the mission also had seemed clear. Yes, he had been sure and confident then.

"Yes sir, follow the ridge, then across the valley on that road, continue. . . ."

He was to make a reconnaisance in force deep into hostile territory and, if possible, locate and drive off or destroy a troublesome enemy force.

Now, two days and many miles later, it was not so simple. It had been easy enough to pass through the enemy lines. There were no real positions to block the path. But since then, nothing had gone right. Although there had been no enemy contact, it seemed that his unit was its own worst enemy. They were "grass green," and it showed. The junior officers and NCOs could not control the men, march discipline was poor, security was lax, and only good fortune kept the lapses in flank protection from being fatal. On top of all else it was hot—very hot—the kind of heat that sapped strength and spirit. The column had halted and the men lay about seeking what little shade there was in the dry valley.

A decision had to be made, and he was a professional soldier—an officer whose training had prepared him to take command and make decisions. It was his job. Why did he hesitate? Why didn't he straighten up and pass the word to move out, continue the mission, and get it over with?

Squatting under the welcome tree beside the hot, dusty road he could hear his men around him: quiet whispers as one spoke to another; a muffled rustle as a tired body shifted to ease a galling belt or pack. A nearby whisper in a high boyish voice gave him another reason for hesitation. These weren't soldiers he was leading. These were boys dressed in uniforms, a mockery of the term soldier. They might do well enough in a position defense, or as occupation troops, but could these untested boys press home an attack against what might be a fortified position, manned by battle trained troops? He wasn't sure. At best, it would be a gamble.

The latest intelligence, though somewhat unreliable, had also created doubts. The enemy force was supposed to be at least equal in size to his own. Further, it had established a defensive position probably no more than two miles from where his unit now sprawled —hot, exhausted and unfortunately, because of inexperience, somewhat disorganized by the long march. Some of his patrols had not returned and besides, he did not know exactly where he was on that battered map.

Perhaps he should go back. . . . . Yes, that was it. He should take into account the weary, inexperienced troops and turn back before it was too late. This had been a useful and instructive expedition. It had penetrated deep into enemy territory. Once back within his own lines he could discuss with the junior officers the depth of the penetration and why it had not been wise to press on to the suspected enemy position. After they had rested and perfected their techniques of security and reconnaisance, they could return and if necessary, complete the mission.

Surely, his superiors would feel he was justified in returning. This was his first really independent mission. The first time he was completely on his own. For his unit to be defeated now would be a blow not only to the army, but to him personally. He might never get another command . . . .

Put yourself in this commander's place. What would you do?

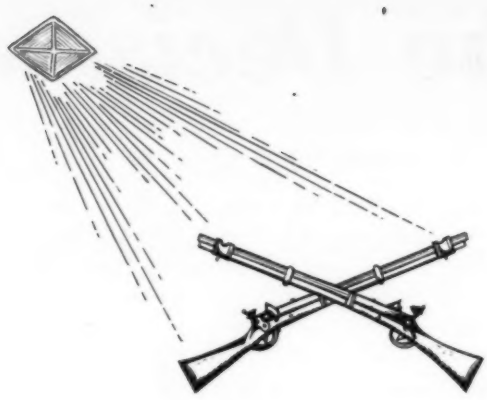
You have two choices:

1. Consider the condition of the unit and make plans for a successful return to your lines. Remember that a return will *not* mean defeat but rather a successful conclusion to a deep reconnaisance.

2. You can press on the last few miles, gain further knowledge of the enemy, and risk engagement with a possibly superior force deep in its own territory. If this action were successful, it would provide a much needed morale boost to your army.

For this commander's decision turn to page 30.

# *Why I Chose the Infantry*



**Lt Col Charles F. Austin**

"If there is a 'generalist' left in the Army today—and I'm not sure there is in this day of necessary specialization—it is probably the senior Infantry officer."

I made this remark to my wife several months ago after five years of "secret" research (I didn't tell anyone about it) and something less than that of serious contemplation of transferring to the combat arms from a branch in which I had served proudly for seventeen years, the Finance Corps. I have made the same remark in answering the question which has been asked me by many friends and acquaintances in the six months since my transfer to the Infantry: "Why did you transfer to the Infantry?" The question has been asked so often that I have decided to document my reasons for the transfer and offer them to the readers of *Infantry* Magazine. Here they are.

My opportunities for personal research on this particular subject have probably exceeded those of any Army officer who ever contemplated a branch transfer. From my vantage point as a member of the faculty of the Command Management School (now called the Army Management School) I have become well acquainted with the 2000 Army officers (Colonels, Lieutenant Colonels and General officers) among my 2,700 graduates. There is no more uninhibited academic atmosphere in the military world than at this school, and there is no more fertile field for researching the minds of men. And I researched them diligently.

Early in my tour on the faculty, I began a crusade against "parochialism," which the Oxford Dictionary defines as "pertaining or confined to a narrow area or domain; narrow, provincial; local narrowness of view." I have lectured against parochialism to every class at the Army Management School on graduation day for over two years, and I included a diatribe against the parochial Army officer in another article wherein I characterized parochialism as "one of the greatest ills in the Army today."

Shortly after launching my crusade, I learned a fact of life that the better (more successful) politicians learn early in life: If you're going to be "agin" something, you'd better find out the opposite of what you're "agin," so you can be *for* it. I soon found the word I wanted for the opposite of "parochialist": "generalist." The definition of "generalist" which I prefer is from the same Oxford Dictionary: "Pertaining to all, or most, of the parts of a whole; not restricted to one department; not specifically limited in application."[1]

There are many kinds of parochialism in the Army. One intense manifestation of it is found among some officers of the technical and administrative services who seem unaware of the existence of other branches of the Army, and among those Infantry, Armor and Artillery officers who indicate daily their strong belief that their particular combat arm won all past wars and will win all future conflicts. Another kind of parochialism, and just as cancerous, is the fierce *functional* identification (personnel, intelligence, plans and operations, logistics, etc.) which exists among staffs at all levels. My personal research which culmi-

1. You won't really find it there, but perhaps someday you may.

nated in the opening statement of this article concerned itself with the "branch of service" type of parochialism rather than the latter "functional" type in which, incidentally, officers of all branches of service indulge. To me, the officer who strives to be non-parochial (that is, a generalist) must think of himself as being first and foremost an Army officer, and secondarily, but also importantly, a member of his particular branch. Among my criteria for research and analysis, this has been my acid test question: *Is this officer primarily an Army officer, or is he primarily a (branch) officer?*

The next and only other criterion I shall list here is best stated by the research question: *In how many different kinds or types of Army assignments could this officer be expected to serve adequately or better?* Frankly, these two questions are enough for valid research. There are others, but in my opinion they tend to muddy the water rather than to clear it up.

Before stating my findings and conclusions for this particular article, I must state one for the Army as a whole: No branch of the Army has a corner on parochialism. Each branch has its share. I know Finance Corps and Adjutant General Corps officers who more closely fit the "generalist" definition than do some combat arms officers I know, and vice versa. The "critical variable" in this is the *individual* himself, rather than the insignia he wears.

Based on many hundreds of answers to my two questions, I give you my findings, which I cannot prove in any scientific or statistical manner, but which I believe to be entirely valid: In today's Army, which requires a career officer to be as proficient in managing an Army post as he is fighting a battle group or a division, the Infantry has a higher percentage of *individuals* who qualify as "generalists" than do the other branches. Period.

LT COL AUSTIN received his commission from the Finance Department OCS in 1943. In 1955 he was awarded the degree of Master of Business Administration with High Distinction by the Harvard Graduate School of Business Administration. A graduate of the Associate Course, Command and General Staff College, Colonel Austin is now assigned to the 2d Infantry Division.

I see no point in listing the other branches as second, third and so on. Further, I would not be capable of doing so. But this article would be remiss as a research report if I did not at least attempt to answer one question: "Why does the Infantry have a larger percentage of 'generalists' than the other branches?" I believe others can answer this question better than I. A general officer whom I respect and admire, a career artillery officer before getting his first star, in reacting to my findings stated, "I think your findings are correct. The Infantry has been and still is the basic arm. The other arms and services support it."

Before making my final decision to apply for transfer to the Infantry, I became acquainted with Brigadier General R. H. Tucker, Chief, Infantry Officers Division, DCSPERS, Department of the Army. One evening I asked him a short, direct, almost impertinent question: "Why should an Army Officer want to transfer to the Infantry?" His reply took nearly thirty minutes, and was very convincing. I wish I had a recording of it which I could quote verbatim here. I have tried to write my recollection of it without much success. My last resort was to re-ask the question in written form to receive a written answer, which is not as colorful as the original dissertation by the picturesque (he refers to Infantrymen as "doughs") and beribboned general who manages the careers of 20,000 Infantry officers. His current written answer follows:

> "From the day he first reports for duty an Infantry Officer is faced with diverse command problems in the form of the individuals in his platoon and company. At the same time he is subjected to the problem of welding into a fighting machine many different types of weapons. The Infantryman, more than any other branch or service officer, is by necessity faced with becoming a generalist at the very start of his career. Not only must he learn and know the rules of military team play, but in his first assignment he will probably be called upon to lead such a team. As time goes on the team becomes bigger, its members and its operations more complex, but the basic leadership qualities necessary to give it a unanimity of effort change very little."

So there you have it. General Tucker's statement supports my not - so - scientific, but valid, research. I am now a veteran of six months in the Infantry and am very happy about it. Does this make me parochial? I hope not. I feel there is a fine but clear line of distinction between the "parochialism" I have described and castigated, and the intense pride of branch identification which can be just as healthy (and necessary) to an over-all organization as the pride that Lou Gehrig and Joe DiMaggio felt as an individual first baseman and center fielder, respectively. Even though they had pride in their individual performances, their greatest value, asset and common denominator was this: They were *team members first* and individual players second.

Perhaps this is the concept or basic guideline we need in the Artillery, Ordnance, Finance Corps or whatever our branch of service. Let us think of ourselves as team members first and individuals second, and behave accordingly.

Anyhow, I'm glad to be in the Infantry.

# Battle Group R & S Forces

***We must use a realistic approach when determining the battle group's reconnaissance and security needs.***

*Capt George A. Millener, Jr.*

SINCE IT WAS never intended that the present battle group organization be the ultimate, final form that Infantry would take for the future, most military men and particularly Infantrymen have had a field day dissecting it and proposing modifications.

One area that inevitably works itself into any such discussion is the ability of the battle group and its subordinate units to perform the necessary reconnaissance and security proposed as part of future tactics. At battle group level these functions belong basically to the Reconnaissance Platoon of the Combat Support Company. In the rifle companies there is no organic capability for mounted reconnaissance.

The present battle group reconnaisance platoon organization was copied from that which had been used by armored divisions in the past. It served the Armor well and stood the tests of training and combat. As presently constituted, this platoon consists of a four-jeep scout section, a section of light tanks, a rifle squad, and an 81mm mortar squad. The rifle and mortar squads each have armored personnel carriers for transport (Figure 1).

It is interesting to note that prior to 1957, armored Infantry battalions had the reconnaissance platoon while the triangular Infantry regiment had the I&R platoon—virtually a scout platoon. Strangely enough, in 1957 the armored Infantry battalion adopted the scout platoon and the Infantry battle group appeared with an organic reconnaissance platoon, the one just scrapped by the AIBs. This switch is even more incongruous when we realize that the recent addition of armored personnel carriers to the Infantry division, combined with emphasis on mobility, brings the capabilities of the armored Infantry battalion and the Infantry elements of the Infantry division closer together than ever before. In adopting the reconnaissance platoon we have apparently failed to capitalize on the tremendous amount of mechanized experience of armored Infantry units.

Our current doctrine, and that planned for the future, dictates the following requirements for the reconnaissance element of the battle group: locate the enemy; perform route, zone and area reconnaissance; and be able to conduct patrols and man observation posts. In addition, this force would have as normal assignments the performing of security missions and screening the front and flanks of the battle group if necessary.

Many Infantrymen say that our present reconnaissance platoon does not have the capability of performing these various missions, and I must agree with them. Considering again what we expect from it, one feature stands out in each one of the requirements: the ability of this force to be everywhere at the same time. In other words, it must cover a large area. To add further to the problem, zones of responsibility are getting larger as we disperse to avoid the effects of nuclear weapons. For example, the

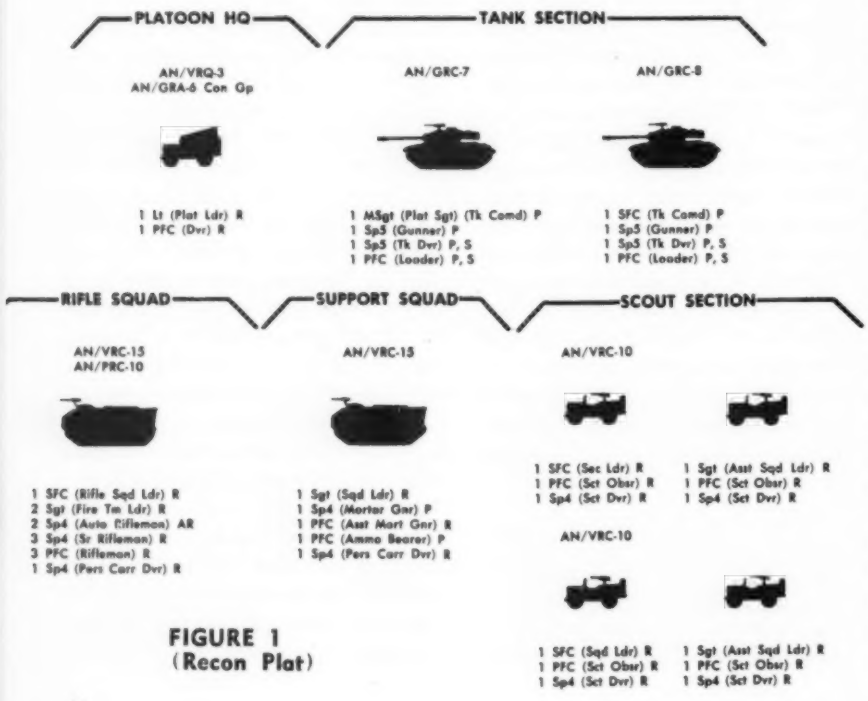

PLATOON HQ
AN/VRQ-3
AN/GRA-6 Con Gp
1 Lt (Plat Ldr) R
1 PFC (Dvr) R
TANK SECTION
AN/GRC-7
1 MSgt (Plat Sgt) (Tk Comd) P
1 Sp5 (Gunner) P
1 Sp5 (Tk Dvr) P, S
1 PFC (Loader) P, S
AN/GRC-8
1 SFC (Tk Comd) P
1 Sp5 (Gunner) P
1 Sp5 (Tk Dvr) P, S
1 PFC (Loader) P, S
RIFLE SQUAD
AN/VRC-15
AN/PRC-10
1 SFC (Rifle Sqd Ldr) R
2 Sgt (Fire Tm Ldr) R
2 Sp4 (Auto Rifleman) AR
3 Sp4 (Sr Rifleman) R
3 PFC (Rifleman) R
1 Sp4 (Pers Carr Dvr) R
SUPPORT SQUAD
AN/VRC-15
1 Sgt (Sqd Ldr) R
1 Sp4 (Mortar Gnr) P
1 PFC (Asst Mort Gnr) R
1 PFC (Ammo Bearer) P
1 Sp4 (Pers Carr Dvr) R
SCOUT SECTION
AN/VRC-10
1 SFC (Sec Ldr) R
1 PFC (Sct Obsr) R
1 Sp4 (Sct Dvr) R
1 Sgt (Asst Sqd Ldr) R
1 PFC (Sct Obsr) R
1 Sp4 (Sct Dvr) R
AN/VRC-10
1 SFC (Sqd Ldr) R
1 PFC (Sct Obsr) R
1 Sp4 (Sct Dvr) R
1 Sgt (Asst Sqd Ldr) R
1 PFC (Sct Obsr) R
1 Sp4 (Sct Dvr) R

**FIGURE 1**
**(Recon Plat)**

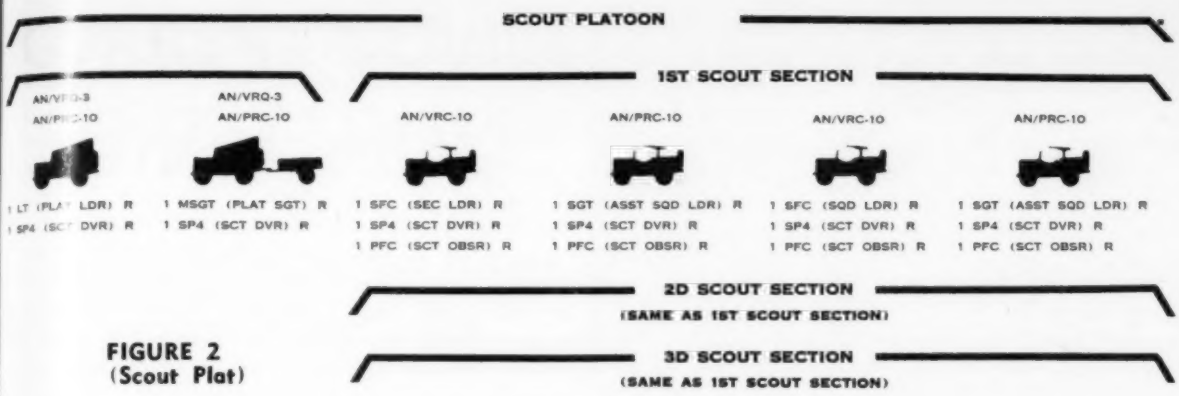



**FIGURE 2**
**(Scout Plat)**

battlefield operational area of today's rifle company is over three times that of a company in World War II, and only slightly less than an Infantry battalion of that period.

The paramount need, then, is for area coverage, and yet, current Field Manuals, when speaking of the reconnaissance platoon say, "The platoon operates more effectively when employed as a unit." The reason for this is that only one section of the reconnaissance platoon, the scout section, is a true reconnaissance element. The tank section, the rifle squad, and the mortar squad are there primarily to support the scout section. Again our manuals explain: "The scout section executes the reconnaissance mission closely supported by the remainder of the platoon."

What we have now is a unit with limited reconnaissance ability and strong fighting power. Are these increased fighting capabilities worth the severe limitation on strategic mobility of the battle group? Only the largest transport aircraft can move the tanks and armored carriers of this platoon. And this is a waste for our purposes.

What we need is a highly-mobile unit capable of ranging far and wide to seek out the enemy and obtain information. And, as in the case of the adopted reconnaissance platoon, there is a unit already organized and tested which will ideally suit our purpose. It is the scout platoon mentioned earlier which is presently organic to armored Infantry units (Figure 2).

This 14-vehicle, 40-man platoon is composed of six scout squads. A squad travels in two jeeps, each mounting a 30 cal. machinegun. Each squad leader's vehicle contains a VRC-10 radio and the other jeep carries a PRC-10 radio which, of course, can be used for dismounted operations.

Compared to the reconnaissance platoon, the scout platoon does not have as great a fighting capability. It does, however, have a far greater ability to accomplish reconnaissance missions. The scout platoon organization also provides much more flexibility of employment. Each of the six squads can be used independently, reconnoitering six separate routes if necessary.

When the occasion arises, we could attach whatever supporting elements necessary to give these information gatherers the additional staying power they need. Within the battle group we have many rifle and mortar squads, and from normal attachments we can expect to receive tanks and armored personnel carriers. Both of these sources give us the wherewithall to augment our scouting force when necessary. We are, in effect, forming a platoon-size task force when this is done. The organization and employment of task forces is an integral part of current instruction at the Infantry School. This concept of "making reconnaissance platoons" is merely an application of current doctrine.

The great feature of the scout platoon is that we can have it *now*. In our budget-conscious Army, a scout platoon with ¼-ton trucks is far more reasonable, from a dollar and maintenance standpoint, than a reconnaissance platoon with its light tanks and carriers. There is virtually no difference in personnel strength.

Let us now consider the problem at rifle company level. Because of the large zones and the fact rifle companies will, in many cases, be operating independently, they too, must have some organic reconnaissance element, or the capability of forming one. Recall that the present rifle company has three ¼-ton trucks, if we do not consider the two that transport the 106mm rifles. In comparison, the pre-ROCID company had four. It was not unusual during this time for a company commander to improvise a reconnaissance element from two or more of his jeeps. This was particularly true in Europe during pre-ROCID days, and was necessitated by the highly mobile field exercises. Those same exercises form the basis for much of our planning today. Even then we had the Intelligence and Reconnaissance Platoon in each regiment which was similar to the scout platoon. In spite of the I&R platoon, company commanders still had to establish makeshift reconnaissance elements.

Has ROCID changed these needs? No indeed! Not only are

the scouting and reconnaissance requirements increased, but there are fewer vehicles to accomplish the task. In order to augment the reconnaissance capabilities of the battle group, and to give the company commander an organic potential for mobile reconnaissance, two ¼-ton trucks could be added to the rifle company. A company commander would then be able to turn out the equivalent of a scout squad on a moment's notice. These jeeps should have the vehicular radios and pedestal-mounted machineguns organic to a scout squad.

The personnel to man this squad are no problem. The main issue is the addition of the two ¼-ton trucks with driver to the TOE of a rifle company. Some may construe this as a plea to get more jeeps in the rifle company—that they will not be used strictly for reconnaissance. To a certain extent, this is true. Who is to dictate how any commander is to use his equipment, within the bounds of reason, as long as he accomplishes his mission? There are a thousand uses for scout jeeps in the rifle company. Here are but a few:

- Flank security when mounted. Since an armored personnel carrier is not a suitable vehicle for reconnaissance, how else is this mission to be accomplished?
- Act as a point in an advance guard situation when mounted.
- Route reconnaissance.
- Establishment of mobile observation or listening posts, outguards for combat outpost lines, and motorized patrols.
- Establishment of radio relay stations.
- Liaison, messenger, quartering parties, contact missions, guides, etc.
- Rear area surveillance.
- Medical evacuation, ammunition resupply, and delivery of hot rations to dispersed platoons.

Note that the majority of these are related to reconnaissance and security. We can see, therefore, that there is a requirement for additional jeeps in the rifle company, justified for reconnaissance purposes, not for carrying baggage. In fact, these vehicles should be issued without trailers so they cannot be used to carry baggage. A scout vehicle should not be encumbered with a trailer.

To emphasize the point more, imagine yourself as a battle group commander in a movement to contact. The use of this formation is something that we may expect with increasing frequency on the nuclear battlefield. You have designated Company A as your advance guard. You gave Captain, Company A, a tank platoon and sufficient armored personnel carriers to mount his entire company. Assume that both flanks are exposed and you decide to put the reconnaissance platoon on the most dangerous flank. For security on your other flank you organize a platoon-size task force. It, of course, has no element comparable to a scout section. Your plan shapes up well until the advance guard commander tells you he urgently needs four jeeps for his own flank security. He wants to put two on each flank of the advance guard. The lack of suitable parallel routes requires a vehicle that can traverse the length of the column to explore intersecting routes and be able to move much faster than the carrier column. The CO of Company A has further explained that he intends to use two jeeps of his own to transport his point. Because of fairly close terrain, the use of tanks leading might unnecessarily cause the loss of one or more tanks before they can be decisively committed. Is the request for the additional four jeeps unreasonable? Certainly not!

If, on the other hand, you had a scout platoon as proposed, the solution is obvious: form two platoon-size task forces, one for each flank. Give each task force a scout section (two scout squads or four jeeps) and attach the third scout section to Company A. If Company A has two organic scout vehicles as proposed, Captain Company A might use them as his point and put an attached scout squad on either flank.

Consider another situation, the delay. In your battle group zone there are three relatively high speed enemy approaches. Your companies are disposed in such a way as to block them; however, you require some means of maintaining contact with the enemy and some means of giving you early warning of the enemy approach. It is not feasible to break up the present day reconnaissance platoon to screen all three approaches. The terrain and lack of lateral roads does not permit this platoon to operate laterally across the zone. Again, if you had a scout platoon, the solution would be to place one section on each route. With four jeeps on each approach, contact can be maintained and you will be kept informed as to the location of the enemy. These scout sections would avoid becoming engaged and would leave the actual conduct of the delay to your fighting elements.

It is obvious that the key to our immediate reconnaissance problems is the availability of a sufficient number of appropriate vehicles. The ¼-ton truck is the only vehicle in existence today that is suitable for mobile reconnaissance work. The characteristics of the jeep which make it desirable for reconnaissance are its small size, lack of noise, its speed and its few maintenance problems. No other vehicle available today possesses these characteristics.

Fortunately, we are not depending on past successes of the jeep for our future reconnaissance needs. Work is being accomplished on a very small, silent, tracked vehicle to replace the jeep for reconnaissance purposes. Such a vehicle is necessary to bridge the time span

(Continued on page 46)

# CURRENT SOVIET SMALL ARMS

## All but two World War II arms have been replaced with new weapons of good quality and good basic design

Joseph E. Smith

THE Soviets have replaced almost all the small arms they had in Service in World War II. There are only 2 Soviet small arms currently in Service as standard which were used in World War II, and even they have been modified. In addition to new small arms, a new 9 mm. pistol cartridge and an intermediate size 7.62 mm. rifle round have been adopted. Soviet weapons have been distributed to most of the Soviet satellites and are presently being made in some of these satellite nations. They have also been sold to countries such as the United Arab Republic.

### Pistols

The new 9 mm. Soviet pistol cartridge is not as powerful as the 7.62 mm. pistol and submachine gun round formerly employed by the USSR. It is longer than the .380 ACP, shorter than the 9 mm. Parabellum, and not interchangeable with any other cartridge. It has a 94-gr. bullet and 3.7 grs. of propellant, and is similar in design to the 9 mm. Ultra, a round which was in prototype stage in Germany at the end of World War II.

The Makarov, one of the 2 pistols adapted to this cartridge, is similar to the German Walther pistol designed for the Ultra cartridge. It is basically an enlarged Walther Model PP, and its operation and disassembly are generally the same as that of the Walther. It is called PM (Pistolet Makarov) by the Soviets in accordance with their new weapons designation system which includes abbreviations of weapon type and designer's name.

The Stechkin, or APS as it is commonly called by the Soviets, is a pistol capable of full or semi-automatic fire. Like the Makarov, it is blowback-operated and adapted to the new 9 mm. cartridge. It has a shoulder-stock holster which is used in a fashion similar to that of the Mauser Military, Browning Hi-Power, and Star pistols. Very good shooting can be done with the Stechkin in semi-automatic fire out to ranges beyond 100 yds. if the shoulder stock is used, but it is doubtful if the full-automatic capability has any use beyond 25 yds.

### Rifles and submachine guns

The USSR used limited quantities of semi-automatic and selective-fire rifles in World War II. Most of these were Model 1938 and 1940 Tokarevs, but some 1936 Simonovs and 1932 Tokarev carbines were also in service. The greater percentage of Soviet shoulder weapons used during the war, however, were various models of the bolt-action Mosin-Nagant rifle. The Mosin-Nagant originally appeared in 1891 and its last model, the 1944 carbine, was the weapon most commonly used by the Communist forces in the Korean Conflict. All these weapons are adapted to the 7.62 mm. rimmed cartridge which is almost identical in ballistic performance to the U. S. .30-'06.

9 mm. PM pistol

Sectional view of PM pistol, and Soviet 9 mm. pistol cartridge

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9 mm. APS machine pistol

Sectional view of APS machine pistol

APS with shoulder-stock holster attached

The current standard shoulder weapons are chambered for a rimless cartridge intermediate in size between the .30-'06 and .30 U. S. carbine cartridges. This cartridge, called the Model 1943 by the Soviets, is considerably smaller than the 7.62 mm. NATO round and has approximately 60% as much muzzle energy. Although 1943 is its model designation, it was not introduced into the Soviet Service until sometime after World War II. There are 5 basic types of this cartridge, as follows:

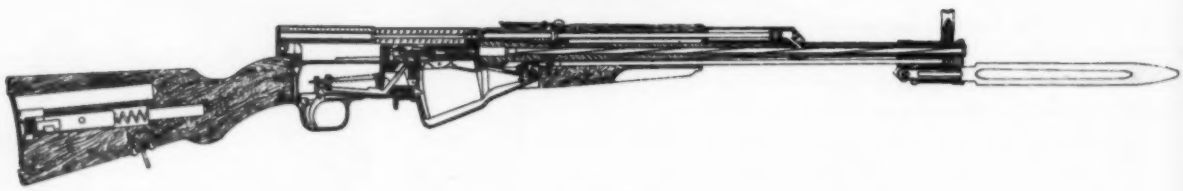
1. Ball, type PS—mild steel core ball, no color markings
2. Tracer, type T-45—green bullet tip
3. Armor - Piercing - Incendiary, type BZ—black and red bullet tip
4. Incendiary-Tracer, type Z — red bullet tip
5. Blank—no bullet, rosette case mouth crimp

The ball bullet weighs 122 grs., and is driven by 25 grs. of propellant. Lightest of the bullets, the incendiary-tracer, weighs about 108 grs. The new Soviet cartridge probably owes much in its design to the German 7.92 mm. short cartridge (for the MP 43), and the tactical concept behind these 2 cartridges is basically the same.

Intermediate-type cartridges, using a medium-weight bullet at relatively low velocities, are of limited range and muzzle energy when compared with rounds like the .30-'06, 7.92 mm. Mauser, or 7.62 mm. NATO. There are many advantages and disadvantages in a cartridge of this type. Advantages are: Less use of critical materials, easier handling from a logistical point of view because of lighter weight and smaller size, ability to use it in lighter, shorter weapons with less recoil. Disadvantages are: mid- and long-range accuracy too poor for use in company and battalion level supporting machine guns and sniper rifles, and high trajectory which necessitates frequent sight changes to hit even relatively large targets at mid-ranges. Because of this, the Soviets still use the M1891/30 rifle in the Service rifle matches at the Olympics and in other International competitions.

The SKS carbine is one of 3 new weapons chambered for the 7.62 mm. M1943 cartridge. SKS stands for Self-Loading Carbine Simonov. This relatively lightweight, gas-operated, semi - automatic weapon shows much evidence of first-class

7.62 mm. SKS self-loading carbine



Sectional view of the 7.62 mm. SKS carbine

design ability. Its basic operating system is quite similar to that of the 14.5 mm. PTRS anti-tank rifle which was a 1941 design of Simonov. Gas is tapped from top of the barrel and pushes a piston rod and spring-loaded tappet to the rear. The tappet actuates the bolt carrier which cams rear of the bolt upward for unlocking. The weapon is loaded with a 10-round stripper clip somewhat similar to that used with the U. S. M2 carbine magazine, and can also be loaded singly. The magazine can be emptied by pulling the magazine catch to the rear. This catch, just forward of the trigger guard, allows the magazine assembly to be pivoted down and forward. The safety is at the rear of the trigger guard, and is turned upward for engagement.

This weapon is called a carbine by the Soviets because of its 20" barrel, and not because it has the same tactical role as the U. S. carbine. It is being replaced in the Soviet Army by the AK assault rifle, but when it was a standard weapon it was comparable tactically to the U. S. M1 or M14 rifle. Considered an effective weapon at ranges up to 400 meters, it is required to fire four 10-shot groups, none to exceed 5.9" extreme speed, at 100 meters.

The Avtomat Kalashnikov, or AK as it is commonly called by the Soviets, has been called a submachine gun because of its appearance and because it initially replaced conventional submachine guns in the Soviet Service. A more proper name for this weapon is 'assault rifle' since it uses the same 7.62 mm. intermediate-size cartridge as the SKS. The AK, which was used for some time in conjunction with the SKS, is now replacing the latter. It is a gas-operated, selective-fire weapon which externally bears a close resemblance to the German MP 43 and 44 series of weapons. Although the AK owes much in concept to the German weapons, its internal construction is quite different, and in some features quite original.

7.62 mm. selective-fire AK assault rifle

The gas port of this weapon is on top of the barrel, and the piston is permanently attached to the bolt carrier. The bolt, which has forward locking lugs, is turned in the bolt carrier by a cam. Construction of the bolt is quite similar to that of the Czech ZK 420, a prototype rifle which appeared after World War II. The trigger mechanism has a multi-stranded spring which

**CURRENT SOVIET SMALL ARMS**

| Weapon | Caliber | Weight | Over-all Length | Barrel Length | Muzzle Velocity | Type of Operation | Feed Device | Capacity | Rear Sight | Front Sight | Cyclic Rate |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PM Pistol | 9 mm. | Loaded, 1.73 lbs. | 6.34" | 3.83" | 1033 f.p.s. | Blowback, semi-automatic only | Box magazine | 8 rds. | Open U-notch | Blade | |
| APS Machine Pistol | 9 mm. | Complete loaded weight w/ shoulder stock, 3.8 lbs. | Complete length w/ shoulder stock, 21.33" | Approx. 5" | 1115 f.p.s. | Blowback, selective fire | Box magazine | 20 rds. | Flip U-notch for 25, 50, 100-200 meters | Blade | 700 to 750 r.p.m. |
| SKS Carbine | 7.62 mm. (M43 ctg.) | Loaded, 8.84 lbs. | 40.16" | 20.47" | 2411 f.p.s. | Gas, semi-automatic only | Box magazine | 10 rds. | Tangent leaf graduated from 100-1000 meters | Hooded post | |
| AK Assault Rifle | 7.62 mm. (M43 ctg.) | Loaded, 10.58 lbs. | 34.25" | 16.34" | 2329 f.p.s. | Gas, selective fire | Box magazine | 30 rds. | Tangent leaf graduated from 100-800 meters | Protected post | 600 r.p.m. |
| RPD Light Machine Gun | 7.62 mm. (M43 ctg.) | Loaded w/ 100-rd. belt, 19.4 lbs. | 40.83" | 20.30" | 2411 f.p.s. | Gas, automatic only | Non-disintegrating link belt held in drum under receiver | 100 rds. | Tangent leaf graduated from 100-1000 meters | Protected post | 650 r.p.m. |
| RP-46 Light Machine Gun | 7.62 mm. rimmed ctg. | Gun w/ bipod, 28.7 lbs. | 50" | 23.85" | 2756 f.p.s. light ball | Gas, automatic only | Non-disintegrating metal link belt | 250 rds. | Tangent leaf 0 to 1500 meters in 50-meter steps | Protected post | 500-600 r.p.m. |
| SGM Machine Gun | 7.62 mm. rimmed ctg. | Gun only, 29.76 lbs. | Gun only, 45" | 28.25" | 2800 f.p.s. light ball | Gas, automatic only | Non-disintegrating metal link belt | 250 rds. | Leaf w/ U-notch graduated from 0-2300 m. | Protected blade | 500-700 r.p.m. |
| DShK M1938/46 Machine Gun | 12.7 mm. | Gun only, 75 lbs. | Gun only, 62.74" | 42.09" w/muzzle brake | 2822 f.p.s. | Gas, automatic only | Non-disintegrating metal link belt | 50 rds. | Leaf w/ U-notch graduated from 0-3500 m. | Protected blade | 540-600 r.p.m. |

7.62 mm. RPD light machine gun

7.62 mm. RP-46 light machine gun

serves as both trigger and hammer spring. A safety-selector lever is mounted on the right side of the receiver. When in "Safe" position, this lever shields the operating handle track in receiver cover, thus keeping dirt out of the receiver and locking the bolt in forward position. "Safe" is the top position of the lever, middle position marked "AB" is for automatic fire, and the bottom position marked "O" and the Cyrillic letter for "D" is for semi-automatic fire. The 30-round box magazine can be removed by pushing the magazine catch forward. The magazine is loaded singly, and the Soviet soldier carries a number of loaded magazines. It is of very heavy construction and not considered an expendable item.

The AK is a well-built weapon, being heavily made of good materials. Like all current Soviet automatic weapons, it has a chrome-plated bore. It is considered by the Soviets to be effective to 400 meters in semi-automatic fire and to 300 meters in automatic fire. Accuracy in semi-automatic fire is about the same as that of the SKS. The Soviets have a marksmanship course for firing the AK in short bursts. When fired in long bursts, the gun has a tendency to rise as do most shoulder-fired automatic weapons with drop in the stock.

There are several versions of the AK. One model has a wooden stock, another a steel stock which can be folded in a manner similar to that of the German MP 38 and 40 submachine guns. There are also several production variants of this weapon. Principal difference in them is construction of the receiver. In one version the receiver is machined from solid steel, and in the other it is composed of 2 forged steel side-plates riveted to spacer blocks. Although the AK did not have a bayonet when it first appeared, it has recently been equipped with a short-blade, knife-type bayonet.

**Machine guns**

The Soviet squad automatic weapon is the RPD light machine gun. This gas-operated, belt-fed weapon is the Soviet equivalent of the U. S. Browning Automatic Rifle or the M14 rifle with bipod. RPD stands for Hand Machine Gun Degtyarev (the Soviets call all light machine guns hand machine guns). This weapon is chambered for the M1943 intermediate-size cartridge. It has a locking mechanism similar to that of earlier Degtyarev guns in that the 2 locking lugs are moved into locked position by cammed surfaces on the slide. The belt feed system is extremely simple, and the weapon is a 1-stage feeder (rounds are pushed directly out of belt links into the chamber rather than being pulled rearward out of

7.62 mm. SGM machine gun on a tripod mount

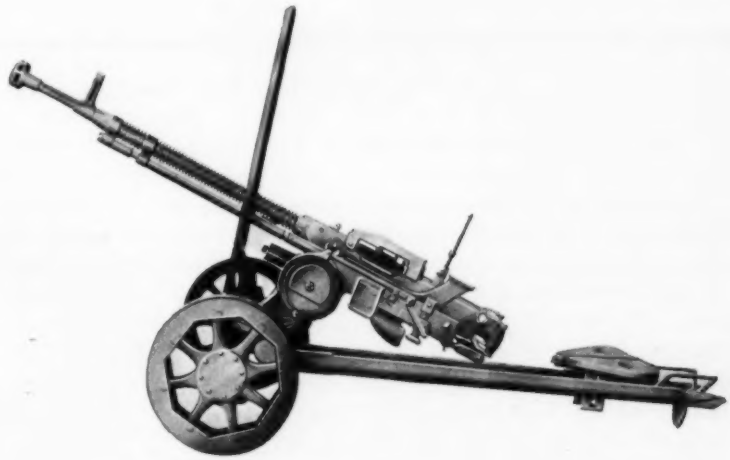
14.5 mm. ZPU-2 heavy machine gun attended by Polish troops

links and then fed down into the face of the bolt and into the chamber as is done with Browning machine guns). Amount of gas to operate the action can be adjusted by changing position of the gas block with a combination tool. In this respect the weapon is similar to the Bren guns, BAR, and several other gas-operated automatic weapons. The barrel has a chrome-plated bore, but is not of quick-change type. The RPD as a squad level gun is not intended for use in the sustained fire role over any long period of time. It is fed by a non-disintegrating metallic link belt composed of 2 sections of 50-rounds each. Terminal links on each section are snapped together and held in position by a cartridge. This belt is held in a drum-type magazine under the receiver. The magazine has no spring or booster mechanism to assist in feeding. It merely holds the belt.

The RPD is quite an impressive weapon. It is probably the lightest belt-fed machine gun in use at present, weighing only 19.4 lbs. loaded. However, it uses a cartridge of limited size and power. It is an extremely simple gun in operation and maintenance.

The company level machine gun is the 7.62 mm. Company Machine Gun Model 1946 or RP-46. This weapon, which is adapted to the 7.62 mm. rimmed cartridge, is the tactical equivalent of the U. S. cal. .30 Browning machine guns M1919-A4 and M1919A6 or the new 7.62 mm. M60 when used on a bipod. It is another Degtyarev design, and is basically the same as the DPM (the former drum-magazine, squad, automatic weapon) except that it is belt fed. The RP-46 has a quick-change barrel with chrome-plated bore, and is a well-designed gun although somewhat on the heavy side at 28.7 lbs.

The battalion level, rifle-caliber machine gun is the 7.62 mm. SGM and its earlier version the SG-43. Both of these guns are called Goryunovs after their designer, a very talented young man who died during World War II. These guns are also called Stankovy or mounted guns by the Soviets which indicates that they are used only on a mount (SG stands for Stankovy Goryunov). There are 2 types of wheeled mount used with these weapons as well as a lightweight tripod. The Goryunovs are gas-operated, air-cooled, and adapted to the 7.62 mm. rimmed cartridge. The SG-43 was widely used by the Communist forces in Korea, and has a reputation for being quite reliable. Locking is accomplished by sideward movement of the bolt into a cutout in the receiver. In these guns cartridges are pulled to the rear out of the link belt, and fed into the path of the bolt. The guns have quick-change barrels with chrome-plated bores, and the SGM has a barrel lock in which adjustments can be made to compensate for wear and thereby prevent excessive headspace. A tank version of the SGM is used in some of the later Soviet armored vehicles. Tripod-mounted Goryunovs are the tactical equivalent of the



12.7 mm. DShK M1938/46 machine gun

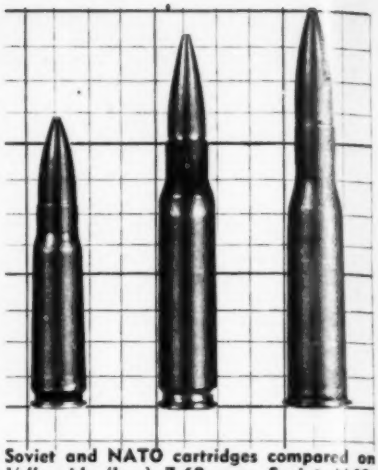
U. S. M60 when used on tripod.

The 12.7 mm.DShK M1938 and its improved version the DShK B1938/46 are comparable to the U. S. cal. 50 Browning M2 heavy-barrel machine gun. The Soviet 12.7 mm. cartridge, while not interchangeable with the U. S. cal. .50, is remarkably similar to the U. S. .50 in ballistics. These weapons are also Degtyarev designs (with the assistance of Shpagin, for which the Sh stands), and their locking mechanism is similar to the smaller Degtyarev machine guns. The M1938 has a revolving-type feed mechanism in which cartridges are fed by stages into the chamber. The newer weapon, the M1938/46, has a feed system similar to that of the RP-46 in which the cartridges are pulled rearward out of the link belt and fed downward into the path of the bolt. These large-caliber Degtyarevs have barrels with chrome-plated bores which are not of quick-change type. They are used as anti-aircraft armament on Soviet tanks and armored vehicles, and as co-axial guns on the new Soviet heavy tanks. They were formerly widely used on a wheeled, single-gun, dual-purpose ground mount against air and ground targets. They have been replaced in this role in the Soviet Service by a new larger caliber machine gun.

The 14.5 mm. heavy machine gun used on the ZPU series of anti-aircraft mounts has replaced the 12.7 mm. machine guns in the ground-mounted role. This recoil-operated weapon uses the 14.5 mm. cartridge originally designed for use with the PTRS and PTRD anti-tank rifles of World War II. This cartridge, which is similar to the experimental U. S. cal. .60 and British 15 mm. BESA rounds, has a bullet weighing approximately 980 grs. and a muzzle velocity of over 3000 f.p.s. The 14.5 mm. guns are used on 3 types of towed mounts, and a twin mount on some armored personnel carriers. The towed mounts are the ZPU-1 which uses one gun on a 2-wheeled mount, the ZPU-2 which has 2 guns on a 2-wheeled mount, and the ZPU-4 with 4 guns on a 4-wheeled mount. The guns have quick-change barrels and bear a close resemblance, insofar as receiver configuration is concerned, to the German MG 151 of World War II fame.

**Design and quality**

In general, current-Soviet weapons are of good quality and basically of good design. Although the Soviets used tremendous quantities of cheaply-made stamped weapons during World War II, their post-war weapons are almost completely made of machined-steel components. They appear to be making their weapons to last a long time, and are sparing little expense in the process. According to current U. S. logistical thinking, they have too many weapons in service. This results in taxing the supply line with a multitude of dissimilar spare parts and a complication of maintenance procedures. This may not be as major a consideration with the Soviets as it is with this country. The Soviets have a family of modern small arms of good design and adequate construction.



**Soviet and NATO cartridges compared on ¼" grid: (l.-r.) 7.62 mm. Soviet M43, 7.62 mm. NATO, and 7.62 mm. Soviet rimmed cartridges.**

## NEWS STORIES WE HAVE READ SOMEWHERE

### EX-ARMY MAN MURDERS THREE

Last night, former Army Private John S. Halfaloaf was found cringing behind a barn door after it was discovered that he had murdered three old ladies as they slept in bed. The ex-GI held a shotgun tightly, but did not fire it at police. His Army training surely must have taught him how to shoot, police said, but apparently the one-time soldier was in the grips of cowardice.

Halfaloaf served in the US Army for one month in 1937, and was discharged after a psychiatric examination.

### WHOLELOAF WINS NOBEL PRIZE

Joseph S. Wholeloaf, who last month announced to the world that he had, on his own time, isolated the cure for cancer, has been awarded the Nobel Prize in what was called "small recognition." Isolating this drug has been hailed by many as the greatest single event in medical history, surpassing such great names as Pasteur, Jenner, Lister, Fleming, and Salk.

Wholeloaf is married to Jeanne Lollipop and they have three lovely children. He is a master sergeant with the Army.

# Small Unit Air Loading

Capt Thomas E. Aaron

BETWEEN now and the time every Infantryman rides in an organic aerial vehicle, there is a requirement for Infantry units to be able to load into helicopters and be airborne within periods of time as short as five minutes. While it may sound so, this is neither impossible nor particularly difficult. It has been done frequently in the past, and if current doctrine for the future is any indication, it will continue to be done. It is, however, a feat which has to be well planned in order to be accomplished.

If there is any one key, any one way to enable commanders to accomplish this feat, it lies in a simple SOP, one that is understood and practiced by everyone who is to use it.

In a rifle company or comparable organization, an SOP for movement by helicopters is essentially a loading plan. Without a good one most efforts made toward rapid, efficient loading will be wasted. Unfortunately, devising a good loading plan isn't easy. Those who have had experience making them know that the planner is faced with a particular dilemma, what Allowable Cargo Load (ACL) to use in making his computations? Most of us have had to throw hours and sometimes days of work out the window, or have had to spend precious time modifying our work because, for one reason or another, the helicopters would not carry what they were supposed to carry.

Most of us understand why the ACL varies, why you can seldom use the rated figures when you compute loads. For those who don't, it can be easily explained this way. Helicopter lift is governed primarily by three factors over which the pilot has absolutely no control: the temperature, the relative humidity, and atmospheric pressure in the area in which you are operating. Thus the ACL changes as these variables fluctuate. This can result in a helicopter whisking a jeep away in the morning and not being able to lift it off the ground in the afternoon. A major problem to the planner results, but it is not an unsurmountable one. Perhaps the best way to solve this problem is to make several plans, one for each of the most prevalent weather conditions in your area of operations. Obviously you can't make loading plans to meet all weather situations, but if you made, say, three of them, you should be able to meet nearly all the other situations with speed and efficiency. The Combat Support Flight Leader assigned to your battle group can give you the information you need concerning aircraft and the effect weather and atmospheric conditions have on them.

In order to make your SOP loading plans, you should have a thorough knowledge and understanding of the techniques of computing aircraft requirements. There are three basic methods for doing this. They are the weight method, the type-load method, and the space method.

The weight method is used when the total weight to be transported is the determining factor. When using this procedure, the weight of everything to be transported must be determined. Helicopter requirements are found by dividing the total weight to be transported by the allowable cargo load (payload) of the aircraft. As an example, assume that cargo of a total weight of 60,971 pounds has to be moved by H34 helicopters. Let us further assume that the allowable cargo load of the H34 in this instance is 4240 pounds. Dividing 60,971 by 4240, we find that 14.3 helicopters are required. Since there is a need for more than 14 helicopters, 15 must be used.

The weight method is a sound method, but it has deficiencies. It is not accurate enough to compute requirements for units that must transport major items of equipment and also maintain tactical integrity. In addition, the results will be inaccurate if the air vehicle has a limited seating capacity.

The second method is the type-load method. In this system, SOP type-loads are computed for various types of aircraft under varying conditions of allowable cargo load. The main disadvantage of this method is that the fluctuation of helicopter lift capacity caused by variations in temperature and relative humidity in the local area, as well as the altitude and range of the operation, may require adjustment of the loads for each operation.

The third and most preferred method for computing aircraft requirements is the space method. It is the most desirable because the number of spaces required for personnel, weapons, ammunition, and vehicles will not change for each operation or with every change in allowable cargo load. Thus the majority of computations remain constant and overall planning time is decreased. Its basic premise is that personnel and equipment are reduced to units of space. One space is the equivalent of 240 pounds, the weight of one combat loaded soldier. In using this method, the planner should understand how this 240 pounds is derived. Otherwise, he may consider certain items of equipment twice in his computations, thereby increasing

his aircraft requirements.

The average weight of each soldier is assumed to be 155 pounds. Normal combat clothing and equipment weight per man is 49.89 pounds. The average weight of all weapons and hand-carried Class V basic load in a rifle company is 36.41 pounds. This figure includes the 81mm mortars but not 81mm mortar ammunition. It also does not include the 106mm rifles or 106mm rifle ammunition. These three weights total 241.30 pounds, which is rounded off to 240 pounds.

Here is how the space method works. Major items of equipment such as vehicles, trailers, or heavy equipment are converted into spaces by dividing the weight of each item by 240. If two or more items of the same type are to be transported, multiply the number of spaces required for one item by the total number of items. Convert additional assault supplies not carried by individuals into spaces by dividing their total weight by 240. When fractional space values occur, they are rounded off to the next higher half or whole space. For example, 10.1 spaces is rounded off to 10.5; or, 12.6 is rounded off to 13. Finally, the number of spaces per aircraft is determined by dividing its allowable cargo load by 240. Here fractional values are rounded off to the next *lower* half or whole space. For example, 22.8 is rounded off to 22.5; 24.3 is rounded off to 24.

As an example of using the space method, we will compute the helicopter requirements for a rifle company with normal attachments. Rarely will an entire rifle company be moved by helicopter in a tactical situation. The first step, therefore, is to determine what personnel and equipment are non-essential. For the purposes of this illustration we will assume that the following personnel are non-essential:

| | |
|---|---|
| Executive Officer | |
| First Sergeant | Armorer |
| Mess Steward | Company Clerk |
| First Cooks (2) | Cooks (2) |

**Figure 1**

| | |
|---|---|
| **Co Hq** | |
| Co Cmdr | 240 lbs |
| Comm Chief | 240 lbs |
| *R/T Op (2) | 480 lbs |
| Wiremen (2) | 480 lbs |
| ¼-ton trailer | 565 lbs |
| ¼-ton truck | 2895 lbs |
| | 4900 lbs |
| **Rifle Plat** | |
| Plat Ldr | 240 lbs |
| Plat Sgt | 240 lbs |
| Sqd Ldr (3) | 720 lbs |
| TM Ldr (6) | 1440 lbs |
| AR Men (6) | 1440 lbs |
| Sr Rmen (6) | 1440 lbs |
| Rmen (12) | 2880 lbs |
| Wpns Sqd Ldr | 240 lbs |
| MGunner (2) | 480 lbs |
| RGunner | 240 lbs |
| Ammo Bearer (2) | 480 lbs |
| Asst MGunner (2) | 480 lbs |
| Asst RGunner | 240 lbs |
| Total one plat | 10,560 lbs |
| Total three plats | 31,680 lbs |
| **Wpns Plat** | |
| Plat Ldr | 240 lbs |
| Plat Sgt | 240 lbs |
| R/T Op | 240 lbs |
| Mort Sect Ldr | 240 lbs |
| Mort FO (3) | 720 lbs |
| Mort FDC Cmptr (2) | 480 lbs |
| *R/T Op (4) | 960 lbs |
| Mort Sqd Ldr (3) | 720 lbs |
| Mort Gunner (3) | 720 lbs |
| Mort Ammo Bearer (3) | 720 lbs |
| Mort Asst Gunner (3) | 720 lbs |
| AT Sqd Ldr (2) | 480 lbs |
| AT Gunner (2) | 480 lbs |
| Lt Trk Driver (2) | 480 lbs |
| Loader (2) | 480 lbs |
| ¼-ton trailer | 565 lbs |
| ¼-ton truck | 2665 lbs |
| ¼-ton truck (106) (2) | 6296 lbs |
| Mort Ammo (144 rds) | 2160 lbs |
| RR ammo (12 rds) | 720 lbs |
| | 20,326 lbs |
| **Normal Attachments** | |
| Sr Med Aidman | 240 lbs |
| Hv Mort FO | 240 lbs |
| Asst Hv Mort FO | 240 lbs |
| ¼-ton trailer | 565 lbs |
| ¼-ton trk w/VRC 10 (FO) | 2780 lbs |
| | 4065 lbs |

* One radio/telephone operator from the company headquarters and one from the mortar section headquarters are assigned as vehicle operators. Because control and radio communications are critical during airmobile operations, these individuals accompany the airmobile force. Personnel of the non-essential element may be assigned to operate their vehicles.

In addition, one ¼-ton truck and ¼-ton trailer are non-essential. Further, the ¾-ton trucks of the rifle company cannot be lifted by any helicopter currently in the Army inventory except the H37. Consequently, for airmobile operations involving all other types of aircraft, the ¾-ton trucks must be omitted. Because it is not practical to separate the trailer from the truck, the ¾-ton trailer is usually omitted also. One ammunition bearer from each 81mm mortar squad will remain behind to drive these vehicles.

Shown in Figure 1 are the essential elements which must be transported for this operation.

In this case, there are 174 personnel in the essential category. These require 174 spaces.

The three ¼-ton trucks require $\frac{2665}{240} \times 3 = 11.1 \times 3$ or $11.5 \times 3$

**Figure 2**

| | | |
|---|---|---|
| CHALK # 1. | Platoon Leader, 1st Platoon | 240 lbs |
| | 1st Squad, 1st Platoon | 2,640 lbs |
| | "A" Fire Team, 2d Squad, 1st Platoon | 1,200 lbs |
| | | 4,080 lbs |
| CHALK # 2. | 2d Squad (- "A" Fire Team), 1st Platoon | 1,440 lbs |
| | Weapons Squad, 1st Platoon | 2,160 lbs |
| | 81mm Mortar Forward Observer Team | 480 lbs |
| | | 4,080 lbs |
| CHALK # 3. | Platoon Sergeant, 1st Platoon | 240 lbs |
| | 3d Squad, 1st Platoon | 2,640 lbs |
| | "A" Fire Team, 1st Squad, 2d Platoon | 1,200 lbs |
| | | 4,080 lbs |

| | | |
|---|---|---|
| CHALK # 4. | Platoon Leader, 2d Platoon | 240 lbs |
| | 2d Squad, 2d Platoon | 2,640 lbs |
| | Machinegun Team, 2d Platoon | 720 lbs |
| | 81mm Mortar Forward Observer Team | 480 lbs |
| | | 4,080 lbs |
| CHALK # 5. | Company Commander | 240 lbs |
| | Radio/Telephone Operator | 240 lbs |
| | 3d Squad, 2d Platoon | 2,640 lbs |
| | Weapons Squad Leader, 2d Platoon | 240 lbs |
| | Rocket Launcher Team, 2d Platoon | 480 lbs |
| | Platoon Sergeant, 2d Platoon | 240 lbs |
| | | 4,080 lbs |
| CHALK # 6. | Heavy Mortar Forward Observer | 240 lbs |
| | Communication Chief | 240 lbs |
| | Radio/Telephone Operator | 240 lbs |
| | Truck, ¼ T, w/AN/VRQ 3 | 2,895 lbs |
| | | 3,615 lbs |
| CHALK # 7. | Assistant Heavy Mortar Forward Observer | 240 lbs |
| | Weapons Platoon Leader | 240 lbs |
| | Senior Medical Aidman | 240 lbs |
| | Truck, ¼ T, w/AN/VRC 10 & Trailer ¼ T (on sling) | 3,345 lbs |
| | | 4,065 lbs |
| CHALK # 8. | Machinegun Team, 2d Platoon | 720 lbs |
| | Weapons Platoon Radio/Telephone Operator | 240 lbs |
| | Truck, ¼ T, Utility, w/Trailer ¼ T (on sling) | 3,230 lbs |
| | | 4,190 lbs |
| CHALK # 9. | 81mm Mortar Section Leader | 240 lbs |
| | Mortar Section Radio/Telephone Operator | 240 lbs |
| | 81mm Mortar Fire Direction Computer | 240 lbs |
| | 1st Squad (- "A" Fire Team), 2d Platoon | 1,440 lbs |
| | 1st 81mm Mortar Squad (- 1 Ammunition Bearer) | 960 lbs |
| | 48 rounds 81mm Mortar ammunition (on sling) | 720 lbs |
| | | 3,840 lbs |
| CHALK # 10. | Weapons Platoon Sergeant | 240 lbs |
| | 2d Squad (- "A" Fire Team), 3d Platoon | 1,440 lbs |
| | Wireman | 240 lbs |
| | 2d 81mm Mortar Squad (- 1 Ammunition Bearer) | 960 lbs |
| | 48 rounds 81mm Mortar ammunition (on sling) | 720 lbs |
| | | 3,600 lbs |
| CHALK # 11. | Platoon Leader, 3d Platoon | 240 lbs |
| | 2d Squad (- "A" Fire Team), 3d Platoon | 1,400 lbs |
| | Wireman | 240 lbs |
| | 2d 81mm Mortar Squad (- Ammunition Bearer) | 960 lbs |
| | 48 rounds 81mm Mortar ammunition (on sling) | 720 lbs |
| | | 3,600 lbs |
| CHALK # 12. | 1st Antitank Squad (- Loader) | 720 lbs |
| | Truck, ¼ T w/106mm rifle & 6 rounds ammunition (on sling) | 3,508 lbs |
| | | 4,228 lbs |
| CHALK # 13. | "A" Fire Team, 2d Squad, 3d Platoon | 1,200 lbs |
| | Weapons Squad, 3d Platoon | 2,160 lbs |
| | Loader, 2d Antitank Squad | 240 lbs |
| | 81mm Mortar Forward Observer Team | 480 lbs |
| | | 4,080 lbs |
| CHALK # 14. | Antitank Squad | 720 lbs |
| | Truck, ¼ T, w/106mm rifle & 6 rounds 106mm ammunition (on sling) | 3,508 lbs |
| | | 4,228 lbs |
| CHALK # 15. | Platoon Sergeant, 3d Platoon | 240 lbs |
| | 1st Squad, 3d Platoon | 2,640 lbs |
| | "A" Fire Team, 3d Squad, 3d Platoon | 1,200 lbs |
| | | 4,080 lbs |

$= 34.5$ spaces. (Note that the 11.1 is rounded off to the next higher half space, 11.5.)

The three ¼-ton trailers require $\frac{565}{240} \times 3 = 2.3 \times 3$ or $2.5 \times 3 = 7.5$ spaces. (In this case the 2.3 is rounded off to 2.5.)

The two ¼-ton trucks, w/106mm rifles require $\frac{3148}{240} \times 2 = 13.1 \times 2$ or $13.5 \times 2 = 27.0$ spaces.

144 rounds of 81 mm ammunition require $\frac{2160}{240} = 9$ spaces.

12 rounds of 106mm rifle ammunition require $\frac{720}{240} = 3$ spaces.

The total spaces required then for this rifle company is $174 + 34.5 + 7.5 + 27 + 9 + 3 = 255$ spaces.

The allowable payload of an H34 helicopter for a 25 nautical mile radius mission is 4240 pounds. If we divide this figure by 240, we determine the number of spaces per aircraft to be 17.6 spaces, which is rounded *downward* to 17.5 spaces.

The total number of aircraft required is then determined by dividing the total spaces required by the number of spaces per aircraft. In this case, we divide 255 by 17.5. This answer, 14.6, is rounded off to 15 aircraft.

After the planner has determined the number of aircraft required to lift his unit, he then can proceed to make his loading plan. Figure 2 contains a complete rifle company loading plan using fifteen H34 helicopters on a 25 nautical mile mission. This is a loading plan which in all probability would be approved by aviation personnel under combat conditions only. The aircraft are loaded near maximum capacity and the safety factors are rather slim. In making plans for training purposes, it would be best to compute loading plans using as an ACL the weight of the heaviest load you wish to carry. In the rifle company this would normally be the weight of the 106 jeep plus the driver. Another handy ACL to use is 2640 pounds, the weight of an 11-man squad.

With respect to tactics of the future, our prognosticators tell us that opportunities and situations will present themselves which will demand quick and precise reactions. We are told that except for large-scale operations we probably will not have the comfortable margin of time we have had in the past to plan our operations in detail.

In order for us to achieve a capability for timely commitment of our forces at the right place and with the preciseness we desire, we will have to utilize air vehicles. It stands to reason, therefore, that we must train in this technique, and do it vigorously. And the first step in this training is to develop SOP air-loading plans.

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CAPT AARON received his commission in 1951 from the United States Military Academy. He served as platoon leader, executive officer and company commander with the 7th Division in Korea. With the 11th Airborne Division he served both at Fort Campbell and in Germany. Upon completion of the Advance Course, Captain Aaron was assigned as Chief, Special Editing Section, Editorial & Pictorial Office, USAIS.

# *Solution: The Decision Is Yours*

(Continued from page 15)

Though military men dislike to admit it, circumstances often cause results which have the appearance of springing from strong decisions but do not. If the results are successful, nothing need be said as to what caused them. But decisions there must be. The pages of military history bleed with battles gone awry and causes doomed by vacillation, hesitation and indecision.

There is an element of luck in war. No man, however, would be wise to depend on the luck our commander found along that dusty road. *His unit made his decision for him.* Bored with waiting for someone to make a decision, the unit simply stood up and began to drift forward, first slowly, then in a mile-eating march column. It was going. It did not know exactly where, but it was going, and it was carrying its supposed commander along because, as he later admitted, he "lacked the moral courage" to call a halt so he could straighten out his thoughts. Coming at last to the brow of a hill mass he recognized on the map, he did call a halt. From the hilltop it was plain that the enemy had left the position and fled.

Before he gave the orders which started his weary men on the long, uneventful march home, his thoughts were long, deep and self-searching. Our commander learned a great lesson from his experience: A bold decision, vigorously executed, can carry the day, for the enemy is as uncertain and has as much to fear as he does.

War brought the commander rapid promotions, and nine months later he had reason to remember his lesson. An enemy assault was making up in fury and violence for the quietness of that little expedition so marked by fearful indecision. A driving enemy had rolled up his outposts and with a day-long series of brutal attacks pressed home with wild abandon had pinned his units against an unfordable river.

Night had come with a cold, wind blown rain, and the enemy attack waned with the light but there was no doubt about the relative morale of the two armies. His lay broken, its back to a river, men and units mixed beyond recognition and only barely short of breaking into flight. The other army had suffered, it was true. Terrible casualties reflected the abandon of the attack, but it had clearly won the field and, flush with victory, would surely renew the attack at first light. One more day's bloody work to crush his army and hurl it into the river and oblivion.

Late that night, one of the fiery leaders of that battered and disorganized army found our commander standing under a tree, getting what shelter he could from the incessant rain. Something "moved" him, as he put it later, "not to speak of retreat." So he said simply, "Well, we've had the devil's own day, haven't we?"

Our commander's answer came after a brief pause. "Yes," and then a hard pull at his cigar lit his face. "Yes, we'll lick 'em tomorrow, though."

And on 7 April 1862 Ulysses S. Grant threw the Army of the Tennessee back into the fight which raged a second day around the little church at "Bloody" Shiloh, and did indeed, as he promised William T. Sherman, "lick em."

Grant, the man who had been indecisive about moving his regiment against a guerrilla band nine months earlier had not forgotten the lesson he learned there. He never forgot it, and through all the rest of that long war he never again felt the cold, unreasoned sort of panic that beset him on that country road in Missouri. He never forgot that the other fellow had just as much reason to be afraid as he did.

# A New Face For A Foxhole

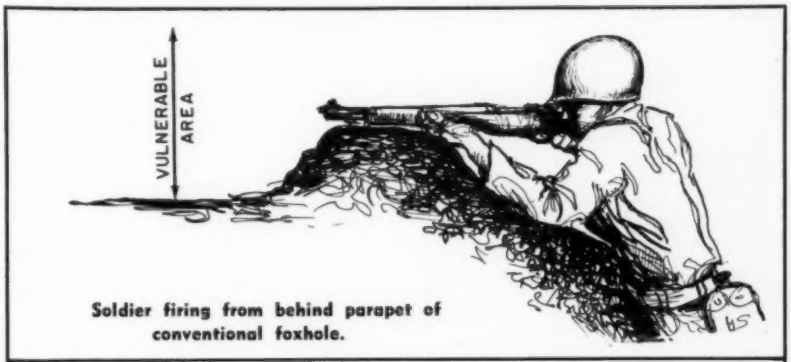
1st Lt Steven L. Canby

NEXT time you see a soldier in a GI foxhole, watch him as he raises up to shoot. The top of his body is above ground level, nicely exposed to all sorts of lethal problems. The cause lies in our field manuals, which depict the typical hole with a parapet of "spoil" thrown around it. It is stipulated that this parapet be at least three feet wide and one-half a foot high. Those soldiers who have never seen combat, and the number grows fantastically, figure that one foot thick and a foot high sure will beat a half-foot in any direction. This type parapet is about as useful as a piece of paper, and far more dangerous because the soldier has been deluded into believing he is protected. Perhaps he is from the head-on front, but from where else is he protected once he steps up to see over this thing so he can shoot?

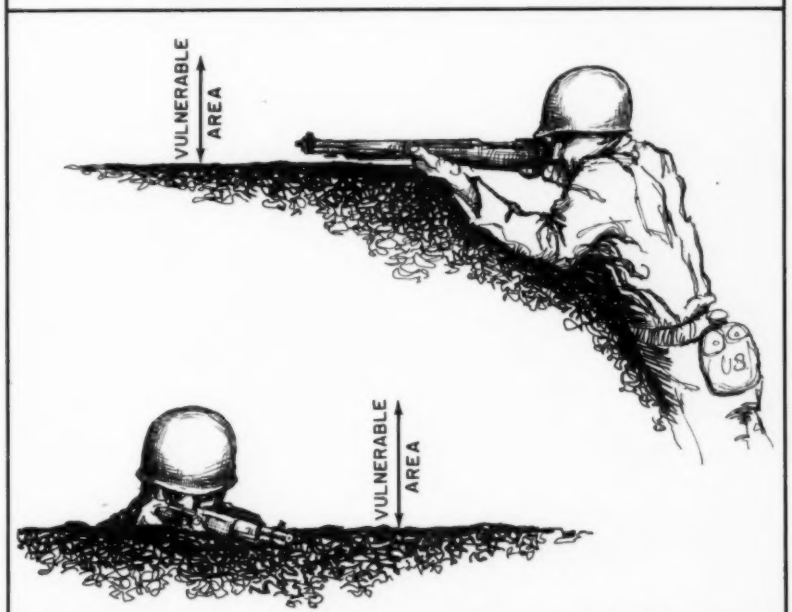
The solution is simple. Forget the parapet. Instead, dig your hole, then dig a firing shelf or elbow rest *inside* so that the firer exposes only his head and the muzzle of his weapon. This is all he will expose to an enemy from any direction. He is in fact far better protected and may feel a bit more inclined than soldiers of past wars (to judge from widely publicized reports) to stick his weapon out and do some aimed firing.

There is another advantage which must be acknowledged. It will be much easier to camouflage a level spot on the ground than to build a solid hump and make it look as if it belongs to the area. The spoil can be tossed into craters, ditches, depressions in the earth, or back over the hill. It can be better covered with leaves or grass if it is so placed. Or, if time permits, the spoil can be built up as now prescribed to create dummy positions.

Disadvantages? I see none that are worth stopping on. There can be no appreciable complications in varying the firer's angle of elevation, since we have done nothing but lower the entire unit created by man and his foxhole. If he must raise up a little higher to shoot down hill, then he must also rise just as high to see and aim over a parapet, and this serves only to expose more than half his body in back and to the sides. All of the other factors—fields of fire, observation, mutual support — are unchanged by my idea. I think that if we can gain, if we can protect soldiers better and give them a better psychological incentive to get up and shoot, then the modification is well worth doctrinal change.




**Soldier firing from behind parapet of conventional foxhole.**




**Firing from the proposed foxhole the soldier presents a much smaller target area to the enemy.**

# THE TRAINING OF AN AIRBORNE SOLDIER

Techniques for guiding the parachute during descent and emergency procedures are taught in the suspended harness.

IN THESE days when a number of elements within our Army must be ready to strike anywhere, anytime, as in the case of the Strategic Army Corps (STRAC) and our other units deployed around the world, the men that compose a large part of these forces are of necessity qualified parachutists. At Fort Benning, the birthplace of airborne training in the United States, it is the task of the Airborne-Air Mobility Department of the Infantry School to train a great portion of these men. This training is rugged and demanding and there is no room in it for a man who is not highly motivated, deeply dedicated to his profession of arms, and at the peak of physical conditioning.

Once on the ground, the airborne Infantryman uses the same fighting techniques employed by his ground-trodding brothers. It takes a special breed of man, however, to exit from an aircraft in flight and execute a vertical assault on a hostile objective without the protection often afforded the Infantryman by his old friend, Mother Earth.

Pictured on these pages are some of the phases of training that go toward the making of this man—the man who, in the words of the Director of the Airborne-Air Mobility Department, ". . . stands a little taller, dresses a little better, whose discipline is better, and when the chips are down, will fight better."

In using the mock door, students learn procedures to be followed inside the aircraft and the correct method of leaving it.

The 34-foot tower provides experience in exiting from the door, and in actions during descent.

The various methods of recovery from wind drag on the ground are mastered by using the wind machine.

Going up the 250-foot tower.

Free descent from the 250-foot tower is the nearest thing to an actual jump.

The moment of truth arrives when the first jump is made.

Get those feet together, trooper!

Once on the ground, the airborne soldier moves quickly from the drop zone and is on the way to perform his mission.

# YOUR INFANTRY CAREER

This department provides important information on policies and personnel actions which affect your Infantry career. Material for Active Army officers is furnished by Infantry Officers Division, OAD, DCSPER, DA. Information for USAR officers and enlisted Infantrymen is obtained from other Department of the Army agencies.

### Competitive School Selections

Queries received by Infantry Officers Division indicate that many officers attempt to "read between the lines" whenever lists are published announcing the names of Infantry officers who have been selected for attendance at service schools. Frequently, highly qualified officers who are "expecting" selection, but who are not included on the latest list, become disturbed when they find that a number of officers have been selected who are their juniors in rank, age and length of service. A brief discussion of this subject may be helpful in reducing the anxiety of these officers.

Department of the Army policy is that the best eligible and available officers will attend the various schools in any given year. Since there is a span of years during which an officer is eligible for each school, consideration is given to proper career development of the individual and the best interests of the service. For example, Department of the Army policy precludes breaking into the middle of an important or stabilized tour to send an officer to school when he can attend either before or after such a tour. Likewise, Infantry Officers Division's authority to curtail or extend overseas tours to coincide with school dates is limited by regulation. Frequently when an officer becomes available for selection early in his eligibility, he is found to need more command or staff duty—or simply a little more time to mature. These officers are reassigned to give them the opportunity to round out their development. They are reprogrammed for school consideration after completing the additional service.

For such reasons selection may come early or late in the period of eligibility. No significance is attached to *when* an individual is selected. Many of our most outstanding officers attend service schools later in their careers than their contemporaries. All officers who are eligible and available are considered for each list, and the factors are weighed carefully. Great care is taken to insure that all officers who should go to school do so before they pass beyond their zone of eligibility. Although the competition is extremely keen, every Infantry officer can rest assured that he personally is given every possible consideration for attendance at schools for which he is eligible.

### Airborne Assignments

Every effort is made to divide the available airborne tours among as many officers as possible. Remember that there are relatively few officer spaces in airborne units in comparison with other Infantry units. Every lieutenant cannot receive an assignment to an airborne unit, because there are many more airborne qualified officers than there are unit requirements for them. If you wish an airborne assignment, so state on your preference statement. Every consideration possible will be given your request.

### Announcement of School Lists

The target dates for announcement for school lists are as follows:

| CLASS STARTING DATE | ANNOUNCEMENT DATE |
|---|---|
| Aug 61—Associate Course, Command and General Staff College | May 61 |
| Jan 62—Associate Course, Command and General Staff College | Sep 61 |
| Feb 62—Armed Forces Staff College | Aug 61 |

### Degree Completion Program

A new AR 621-5, dated 7 December 1960, has been published and distributed to the field. Pertinent changes and additions to paragraph 11 c, AR 621-5, Degree Completion Program are as follows:

- A limited number of officers may be allowed up to a semester and a summer session to complete the required research and/or theses leading to a graduate degree.
- Twelve calendar months are authorized for attainment of the baccalaureate degree. However, priority is given to those requiring the least amount of time.

• Legal training leading to the attainment of a law degree is not authorized under the Degree Completion Program.

• Officers must have a minimum of 3 years *continuous* active Federal *commissioned* service.

• Applications may be dispatched at any time through channels to: The Adjutant General, ATTN: DCSPER-INF, Washington 25, D. C. Applications should reach DA in duplicate no later than 150 days prior to starting date of schooling.

• Overseas tours may be curtailed up to 45 days to meet announced college or university registration date.

### Infantry Officers Division

Your many inquiries indicate that you may be interested in the organization of the Division and the names of the officers who are now assigned.

First of all, just for the record, the proper title for your assignment branch is:

Infantry Officers Division
Officers Assignments Directorate
Office of the Deputy Chief of Staff, Personnel

The Division is organized like this:

Chief: Brigadier General R. H. Tucker
Asst Chief: Colonel D. L. Baker
Admin Asst: Captain D. F. Hockett

**Colonel Assignments**

Lt Col W. Van D. Ochs Jr. (Chief)
Lt Col B. H. Fraser

**Education Branch**

Lt Col C. H. Moore Jr. (Chief)

| | |
|---|---|
| Lt Col J. S. Mace | Maj J. H. LeClair |
| Maj R. K. Cunningham | Maj E. H. Shemwell |

**Assignments Branch**

Lt Col B. M. Read (Chief)

| | |
|---|---|
| Lt Col R. D. Barrett | Maj J. D. Hynes |
| Lt Col C. L. Crain | Maj H. T. Long |
| Lt Col H. K. Roach | Maj R. M. Reese |
| Lt Col E. A. Stoutner | Maj J. E. Townes, Jr. |

**Personnel Actions Branch**

| | |
|---|---|
| Lt Col P. B. Irby (Chief) | Lt Col C. B. Nerdahl |
| Lt Col F. E. Burgher | Maj W. W. Brooks, Jr. |
| Lt Col H. E. LeFebvre | Maj H. E. Weinberger |

### US Army War College - GWU Joint Education Program

Graduates of the Army War College are able to obtain graduate credits toward a degree in International Affairs with George Washington University. This graduate credit program is effective for six years after the officer graduates from the Army War College and is retroactive for six years. The general aspects of the program are that George Washington University requires 30 semester hours for the degree. They will grant 9 semester hours credit for the AWC course and 6 additional hours for an acceptable thesis. The additional 15 hours may be taken prior to, during, or subsequent to the Army War College course. Coordination can be made by contacting the Dean of Graduate Studies, George Washington University, Washington, D. C.

### Application Procedures For Flight Training

Applicants for Army Aviation Flight Training can assist the Department of the Army in the expeditious processing of their applications by adhering to the procedures outlined in AR 611-110.

Some of the causes for processing delays can be eliminated, provided applicants insure compliance with the following:

• If serving overseas, initiate applications at least six months prior to projected date of return to CONUS.

• Submit applications through channels addressed to the Department of the Army, ATTN: DCSPER-INF.

• If not serving on active duty in an indefinite category, submit a request for extended active duty through channels, inclosed with the aviation application. (See AR 135-215).

• Strict compliance with AR 40-110 when completing all items of Standard Form 88 and 89 will assist in determining your physical status for flight training.

• Point out to the Flight Surgeon any previous illness or injury which The Surgeon General may consider disqualifying. The Flight Surgeon should inclose a detailed report of consultation to include history, examination and evaluation of these items.

### Infantry Officers To Attend Armor Career Courses

In August 1961, thirty Infantry Officers will attend the Armor Officer Career Course at Fort Knox, Kentucky. This is one important aspect of a Department of the Army program to cross-train combat arms officers.

This course can broaden the individual Infantry Officer's understanding of Armor, increase his overall military proficiency and make him better qualified to serve in an Armored Rifle Battalion or Armored Division. The training also helps to increase the efficiency and combat effectiveness of combined arms teams and contributes to long-range objectives of combat arms integration.

Infantry Officers Division will select the officers to attend the Armored Officer Career Course among those Infantrymen who are under consideration for attendance at the Infantry Officers Career Course. Officers who have not already served in an Armor-type assignment will be considered for the Armor Course.

### Indefinite Category Active Duty Program

**References:**

AR 135-215

DA Pamphlet 355-20, Dec 1955

**Discussion:**

In September 1954 the Army instituted a long-range program to provide an active duty career pattern for Reserve Component officers designed to parallel as closely as possible the career pattern for Regular Army officers. The new system of active duty commitments, which went into effect in May 1955, ending the term category system, was the final and most important step in getting the career program under way.

The program has two primary objectives:

- To achieve greater security and career opportunities for thousands of highly qualified Reserve component officers needed for voluntary active service.
- To maintain an active officers corps that is young, vigorous, and high in quality with maximum mobilization potential.

It was felt that a clear-cut active duty pattern would enable Reserve officers to make sounder decisions regarding their individual careers, while enabling the Army to maintain the required degree of combat readiness in its officers corps. Toward these objectives the Indefinite Category Active Duty Program provides—

- A "career category" system under which Reserve officers, once selected, have reasonable assurance of remaining on active duty until eligible for retirement.
- Increased opportunities for promotion and higher responsibilities according to individual ability and performance.
- A standardized and understandable system of attrition through mandatory relief from active duty upon completion of 20 years' active Federal service or 10 years' active commissioned service, whichever is later.

The indefinite category system does *not* require periodic renewal of category commitments by qualified Reserve officers who volunteer for active duty beyond their initial 2-year tours. Officers initially entering on active duty are placed in an obligated status from the date of entrance on active duty until the day on which their obligated period expires. It is to be noted that this program applies to Reserve officers serving on *active duty* and does *not apply* to those serving for six months in an active duty for training status. At the present time, there are no provisions whereby a 6-months ACDUTRA officer may enter into an indefinite category or convert to a 2-year obligated status.

Reserve officers desiring to continue on active duty beyond their initial tours must apply for extension not earlier than 9 months, nor later than 3 months, before their obligated tour expires. Officers who do not desire further active duty must submit a statement of declination during the same period. In certain special circumstances, applications for extension may be made before or after the 9 to 3 month period. Examples of these are when early requests would expedite travel of dependents overseas, when an officer volunteers and is selected for assignment to an OVUREP unit, or when an officer volunteers and is selected for schooling or training requiring a service commitment extending beyond his obligated tour expiration date.

AR 135-215 contains the provisions under which applications for extension of service will be made. This regulation further provides that once a Reserve officer's indefinite category is approved, he may be released only for the following reasons:

- Voluntary request in accordance with applicable regulations.
- Failure to meet acceptable standards of efficiency or conduct.
- Twice failing to be found qualified for temporary or permanent promotion to the grade of captain, major, or lieutenant colonel. In the case of temporary promotion, the second passover must occur at least 9 months after the first. Being found "fully qualified but not selected" does not constitute a passover.
- Release upon completion of maximum service as previously described.
- Forced reduction in Army strength, in which case relief will be accomplished only by Department of the Army board action based on the individual's overall value to the service.

During the Reserve officer's extended active service, until he qualifies for retirement, all the reasons governing release, except the last one, are under his control. Even in the event of a large scale reduction in strength, the officer has a measure of control over his status because those officers having the greatest overall value to the services will be retained. Throughout his period of active service, therefore, the quality of that service is the main factor in determining whether or not he remains on active duty for 20 or more years.

### USAR Officers To AWC

Headquarters, USCONARC, has broadened the prerequisites applicable to USAR officers not on active duty for consideration to attend the U. S. Army War College (AWC). The new policy will facilitate qualified Reserve officers (not on active duty) being chosen for enrollment in the Army's highest educational institution. The change is soon to be published

in a new USCONARC regulation.

Present criteria for AWC attendance by Reserve officers not on active duty will be expanded to include officers who qualify as nearly as possible under the same considerations governing selection of active Army officers for the AWC course. The officer should hold rank of lieutenant colonel or colonel and following graduation be available for active duty at Department of the Army or other headquarters having a Reserve component mission.

The 42-week course conducted by the U. S. Army War College prepares officers for the highest command and general staff positions in the Army, in joint and combined commands and for high level positions within the Department of Defense. The course considers the political, psychological and economic aspects of national security as well as the military factors, and includes international relations, strategy and policy formulation.

Details of procedure for making application to attend the AWC may be obtained from appropriate U. S. Army Reserve units.

**Revision Of Enlisted Classification System**

A new classification concept and procedures to use the Enlisted Evaluation System to determine MOS qualifications of enlisted personnel was recently announced in DA Circular 611-22. Under this program, which commenced with MOS evaluated in February 1961, all Active Army personnel in pay grade E-4 and higher must qualify for their primary MOS by achieving an established minimum MOS qualification score in the annual evaluation of their MOS.

Until last month this evaluation, using an MOS test and a Commander's Evaluation Report, has been to establish proficiency pay eligibility only. Now, however, this evaluation is also used to determine an individual's qualification in his MOS. Operations and Intelligence Specialists, MOS 113, will be the first Infantry MOS tested for both purposes.

Individuals who attain the minimum evaluation score of 70 established for qualification in all MOS will be awarded a verified primary MOS (VPMOS). Commanders will reclassify, retrain, or take other appropriate action when individuals fail to attain this minimum score. Detailed procedures under this application of the Enlisted Evaluation System are being announced in AR 611-203, now under revision.

This new program will benefit the enlisted man, as he can demonstrate, through test and job performance, that he is qualified in his primary MOS. It will be a useful personnel management "tool" to the commander since it identifies individuals who are not qualified, as well as those who are best qualified; therefore, it will serve as a basis for training or retraining, reclassification, and for selective personnel actions. The program will also benefit the Army as it establishes standards for MOS qualification applicable Army-wide and improves personnel classification and assignment by insuring that personnel holding a verified primary MOS are qualified in the MOS.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**Letters to Ed.**

(Continued from page 8)

anything. Benning, Leavenworth, Riley and the others were never open to me. First, I was too young; then almost overnight I became too old. But as a sergeant I had gone to bayonet, grenade, demolition, reconnaisance and infantry specialist school. In two of these, junior officers and senior NCOs both attended. They were the best ones. There I learned not so much what to think, but how to think, about operations, leadership, discipline, etc., which is the all-important thing. There I did my first writing as a soldier and had my first go at public speaking. They did more than give me dignity; they convinced me that I could do original work in the military realm. Thereafter, as new tasks came my way, I simply applied basic principles.

From my perspective, I feel that in our system we tend ever more and more to (1) overschool the officer body, and (2) underschool our most promising NCOs, and that we pay an increasingly high price for it in combat. One effect is that the officer, kept too long apart, cannot get *with* troops almost automatically in the hour when he must have a spiritual unity with them if he is to command. The NCO, on the other hand, be he ever so willing, cannot substitute for his officer and pull a platoon or a company together in the hour of emergency if he is schooled narrowly as a technician but lacks the overall grasp of problems which gives him confidence that his orders, having soundness, will be obeyed. Let me point out that we can't spoil NCOs by giving them too much schooling. *They [will] come back to troops.* That is their life. But it is very easy to school an officer out of any desire to command, once he believes that school credits on his records are the way to promotion and pay or falls for that illusion that being a paragon on a staff is a proper military aim.

In Korea, I was impressed by one thing above all others. Only five years after World War II, I found combat-seasoned company officers who were afraid of the very technics which so lately they had used by rote. They wouldn't call for smoke. They drew back from lighting the battlefield at night. They wouldn't risk outposting their fronts 300-400 yards in situations which called for nothing less. When I began to wonder how men could so quickly forget the most valid lessons of their battle experience, I began to see that decision at the infantry company level is not the unilateral process we imagine it. A man gets part of his power of decision out of the support and confidence of subordinates whom he well knows and whose common sense and good faith he trusts. Under pressure, he'll say: "I think we ought to do this or that." It isn't decision; it's a trial balloon. But when two or three (or maybe one) of his closest associates reply: "You're right; that's it." then decision is catalyzed. This kind of association may never flourish out of remoteness. But remoteness is what we ask for when, in the sphere of weapons usage, tactics and battle leadership, we do not try to school combat arm NCOs as nearly as possible up to the level of officership. For my own part, if I were commanding an infantry company in battle, I would rather have strong sergeants and weak lieutenants with me than vice versa.

The last point raised by Darden's article touches another subject. In our Army, we are paying too little attention to what may be learned from foreign systems which might profit our own. Maybe the rejection of innovations which start elsewhere derives from an over-smug satisfaction with our own processes, a feeling that if we don't know, no one else possibly could. I would hate to think it. But the paradox is none the less there. Deployed pretty much around the world, we have a better chance than ever before to look for what is new and better in every other system, and then make imaginative use of it toward improving our own. But at the same rate that the opportunity had widened, we have narrowed our appreciation of the possibilities.

Recently, I was at Munsterlager, the West German armored school on the Luneville heath. Having to start once again from scratch, and find their own way, except for some marginal guidance by us, the Germans are doing some original things. Their training aids, their teaching approach, etc., etc., sparkle. What I saw there convinced me that Fort Knox had just as much to gain by staying in close touch with developments at Munsterlager as Germans might learn by traveling to Kentucky. But to the suggestion that a close and continuing liaison arrangement would move us along a firmer path also and prove mutually profitable, somebody had replied that the Germans would be welcome at Fort Knox but no purpose would be served by having a trained American observer and consultant at Munsterlager.

This would not have bothered me had I not consistently through recent years run into the same sort of obstinancy repeatedly. Our military brains, like our hardware, are export items; we have raised a military tariff wall against ideas from elsewhere.

S. L. A. Marshall
Birmingham, Michigan

# WHERE ARE YOU?

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# Explosive Charge Control Panels

Maj Frank H. Armstrong

An Infantry rifle company is in a defensive position. Twelve electrically primed explosive charges have been installed on likely avenues of approach into the area. The company commander desires to control the firing of these charges from a centralized location, but how?

A simple control panel can be fabricated readily from any wooden ammunition or ration box, using wire and friction tape from the company's demolition set. However, the positive detonation of the charges, and the safety of friendly troops, can be assured only if several principles are observed.

1. *The control panel must be simple.* The excitement of combat when coupled with a complex panel could be catastrophic. Furthermore, the man who was destined to fire the charges could become a casualty, and some person less familiar with the panel may have to do the job. With a simple panel this is a small problem.

Electrical switches add nothing to the reliability of the panel. They increase maintenance problems, and they complicate closing of circuits for safety reasons. Lastly, they complicate, or even prevent, making a final galvanometer test. Nails are really the better type of switches.

Grounding the board to discharge static electricity is unnecessary and even dangerous. A wooden board will seldom build up static electricity, and if it did, the grounding would have to be thoroughly effective in order to discharge the electricity. Grounding can also increase the chance for lightning to cause accidental detonation.

Simplicity of the power source is also essential, and dry cell batteries provide ideal sources if they have sufficient power. Normally, 135 volts will be adequate to fire most charges, and too much power may damage the wires.

2. *There must be a positive method for disconnecting the power source, preferably a locking type.* If power is entering a demolition circuit and a soldier connects, reconnects, or repairs a bad splice, he will probably become a statistic on a casualty report.

3. *The panel must permit circuits to each charge to be closed whenever it is desired not to fire the charge.* Electric blasting caps are stored and shipped in a closed circuit condition. When the shunt (short circuiting tab) is removed, the closed circuit should be reestablished as quickly as possible (Figure 1). A closed circuit minimizes the chance of storms, radio transmitters, or telephone testing crews causing premature detonation.

4. *A periodic galvanometer test of each circuit must be possible without disconnecting the conductors from their terminals.* The fre-

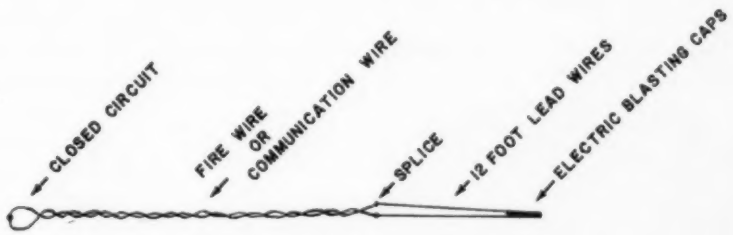



Figure 1.

MAJ ARMSTRONG graduated from Field Artillery OCS in 1942. From 1943 to 1945 he served with the 283d FA Battalion as a reconnaissance officer, battery executive officer, and battery commander. He has attended advanced schools in both artillery and engineering. Major Armstrong has been an instructor at the Army Engineer School and is now an instructor in field engineering with the Command and Staff Dept, USAIS.

Figure 2

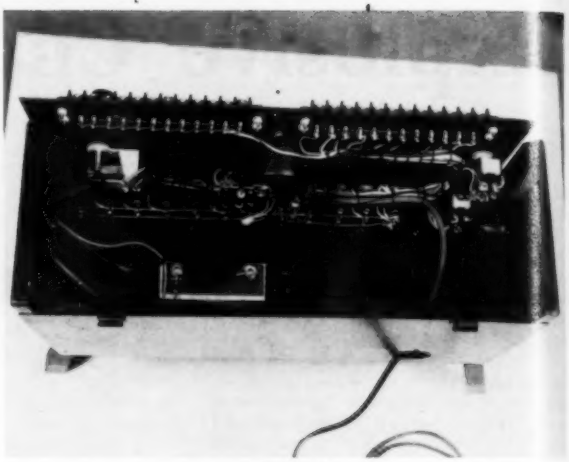


Figure 3

quency for testing the electrical circuit (including the blasting cap) is dependent on the number of existing hazards that may damage the circuit. A test should habitually be conducted, for example, whenever a shell bursts in the vicinity of the firing circuit.

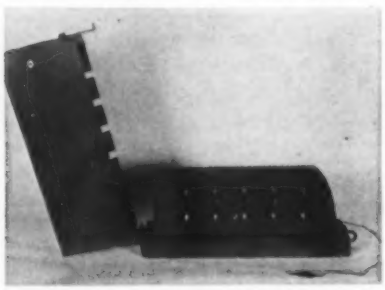
5. *Wires and connections must be arranged and insulated so there is no possibility of inadvertently crossing any conductors.* Deteriorated insulation results in crossing of circuits. Thus the wrong charge may fire, or possibly all of the charges will explode when only one is desired.

6. *Wires leading to each charge should be a twisted pair of conductors.* Twisting of wires into pairs reduces the chance of currents being induced into the wires from nearby radio transmitters or power lines.

There are many control panels which comply with these principles, among them the Demolition Firing Console Device 3C 72 (Figures 2 and 3), developed by the US Naval Training Device Center. However, most such devices are complex and require considerable technical background for testing and usage. A simpler control panel, variations of which have been in use for years at the United States Army Infantry School, is shown in Figure 4. This particular model shows only five circuits, but similar panels using 25 circuits are just as effective. Although it is not discernible in the drawing, this device uses copper nails (steel nails are satisfactory if all rust and corrosion is removed), the BA 279 for 135-volt connections up to a mile with either firing wire or communication wire, and a simple but effective means of disconnecting the power and locking the board. Furthermore, this panel can be closed out by taking the un-insulated wire affixed to the lower row of nails and connecting or wrapping it around each of the nails in the upper row.

Figures 5 through 8 will give the reader a few ideas about construction of a panel similar to that in Figure 4, and will indicate the means by which galvanometer tests may be conducted.

A control panel must be tailored to cope with the problem. A well designed panel indicates that someone has understood the problem, has comprehended the hazards of electrically primed explosives, and has learned by doing. The uninitiated can learn to construct effective panels by recalling the six principles cited earlier, and can turn to several manuals, including FM 5-25, for further guidance. Who knows but what you'll have a need for this information tomorrow?



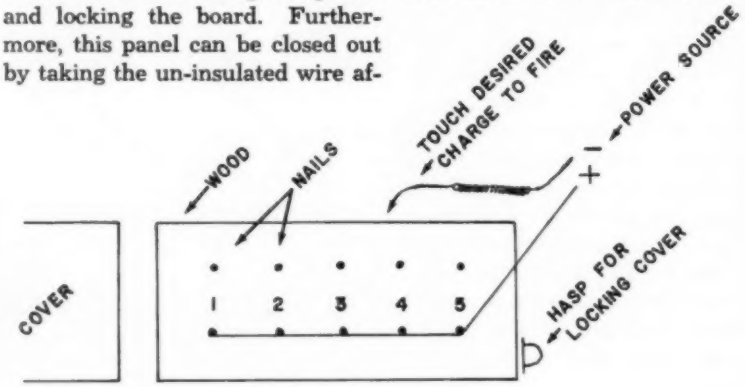



Figure 4

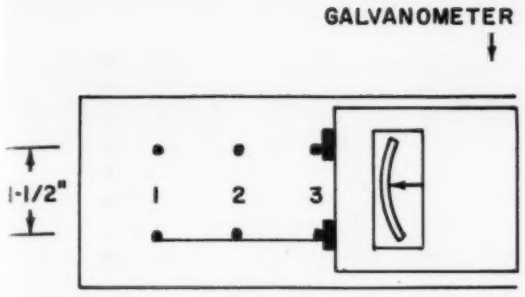



Figure 5. The spacing of nails at 1½ inches will facilitate the galvanometer test. All circuits are opened in the making of this test.

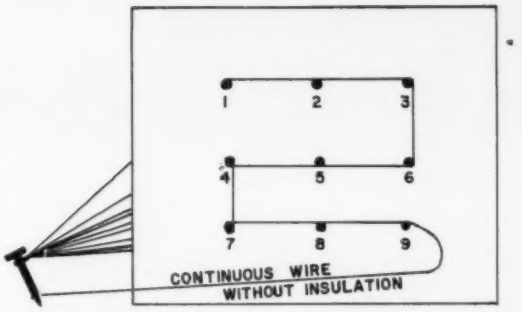



Figure 7. The closing of circuits entails only the connection of the common return to each of the circuits.

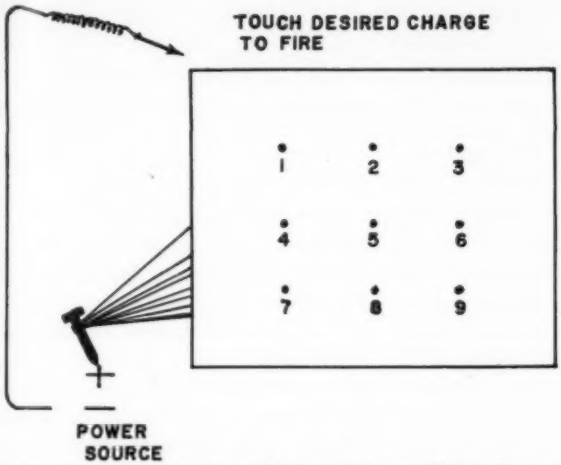



Figure 6. Panels can be fabricated that employ only one nail per firing circuit. This is an advantage when there is a large number of circuits.

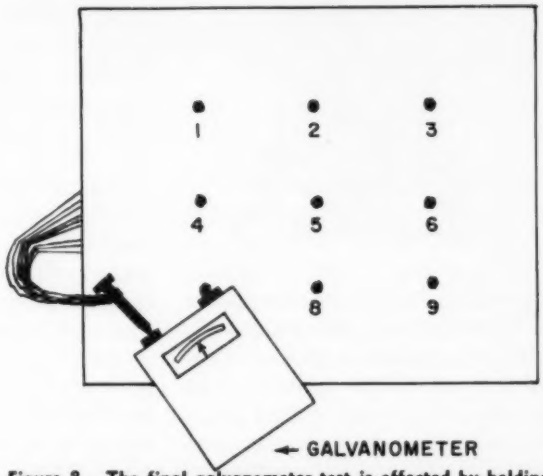



Figure 8. The final galvanometer test is effected by holding the common return nail to one terminal of the galvanometer and touching the other terminal to each terminal in turn.

# SQUAD SIMPLIFIED

SQUAD TACTICS can be more simply taught by the easy expedient of re-numbering its members. Since FM 7-10 indicates that leaders may modify if they wish, I propose this simplification as an idea.

Squad members use the *formations* we teach now, but instead of numbering the entire squad, we number the fire team members, using suffixes "A" and "B" to distinguish between them. The automatic riflemen are now 2A and 2B, and the team leaders are 3A and 3B. Except for the squad leader (SL), the rest of the squad are riflemen. Here is how the differences look on several standard formations.

**As Skirmishers, Alfa Right:**

| Present | | Proposed |
|---|---|---|
| 11 9 7 8 10 | 1 | 5 3 2 4 6 |
| 1B 2B 3B 4B 5B | SL | 1A 2A 3A 4A 5A |

**Squad Column, Fire Teams Abreast, Alfa Right:**

| Present | | Proposed | | |
|---|---|---|---|---|
| 10 | | 5 | 5B | 1A |
| 9 | 1 | 3 | 4B SL | 2A |
| 7 | | 2 | 3B | 3A |
| 8 | | 4 | 2B | 4A |
| 11 | | 6 | 1B | 5A |

**Squad Column, Fire Teams in Column, Alfa Leading:**

| | | | | |
|---|---|---|---|---|
| 3 | | 2 | 4A | 3A |
| 5 | 1 | 4 | 5A SL | 2A |
| | | 6 | | 1A |
| 7 | | | 3B | |
| 9 | | 8 | 2B | 4B |
| 11 | | 10 | 1B | 5B |

In experimenting with this system, several interesting things happen. First, number 4A has no trouble in finding his place in relation to 3A and 5A. Second, team leaders can check their teams quickly simply by counting 1 thru 5 in any formation. Last, but most important perhaps, the men associate themselves more closely with their teams, can form more quickly, and thus can maneuver more rapidly. Lt. C. M. Barone.

# INFANTRY AROUND THE WORLD

## USAREUR

### 1st Armored Rifle Battalion, 54th Infantry, 4th Armored Division

POISED for immediate combat employment alongside other ready NATO troop units in Western Germany stands the 1st Armored Rifle Battalion, 54th Infantry. This proud unit represents one of the most tactically effective adaptations of the foot soldier to the nuclear or modern conventional battlefield, Armored Infantry.

The 54th Infantry Regiment was organized in June 1917 at Chickamauga Park, Georgia, by a cadre from the famous 6th Infantry Regiment. It saw World War I action in France and Germany with the 6th Division, winning campaign honors at Alsace and Meuse-Argonne. During this period, the regiment was called upon to perform an arduous forced march from the Vosges Mountains to participate in the Argonne Forest campaigns, and back to Southern France, earning for itself the name "Mailed Foot" and the Mailed Foot emblem displayed upon the 6th Division star of its coat of arms.

After passing out of service between wars, the unit was reactivated in 1942 as the 54th Armored Infantry Battalion, and assigned to the 10th Armored Division. Mounted in the familiar "half-tracks" of World War II, the battalion fought through the Ardennes - Alsace, Rhineland, and Central European campaigns. Its active part in the bitter fighting for the defense of Bastogne earned the "Mailed Foot" a Presidential Unit Citation and the Belgian Croix de Guerre 1940 with Palm.

The unit's third European tour came with the gyroscope of the 4th Armored Division from Fort Hood to VII Corps in USAREUR in 1958. Redesignated as the 1st Armored Rifle Battalion, 54th Infantry, and assigned to Combat Command C of the 4th Armored Division, the battalion is stationed at Heilbronn, some 30 miles north of Stuttgart, in Southern Germany. The unit now trains in the same woody area in which it fought in World War II. In fact, history repeats itself regularly as the companies of the 54th team up with the 1st Medium Tank Battalion, 37th Armor, the same unit which lead the breakthrough to relieve the defenders of Bastogne in December 1944.

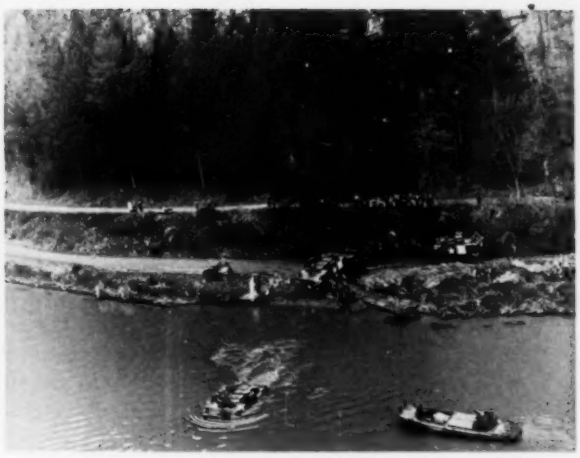
The 54th Infantry maintains its keen readiness through frequent field exercises and semi-annual trips to the Seventh Army Training Center at Grafenwohr for more extensive mounted tactical training.

The roar of engines and clatter of track pads on cobblestone pavement became commonplace in the Heilbronn area during an imaginative exercise conducted by the battalion last December. The three-day problem combined assembly area techniques, march discipline, and field communications tests with the required periodic "swimming" of the carriers. Three assembly areas were located along an 85 mile route of march that included an amphibious crossing of the historic Neckar River.

As an additional test of soldierly skills during the periodic Expert Infantryman Badge Tests, men of the Mailed Foot make a ten to fifteen mile dismounted reconnaissance patrol through the rugged hills north of Heilbronn. Candidates don distinctive uniforms which have been described and illustrated in German newspapers, and many a farmer has informed upon and assisted in the capture of an "aggressor" patrol. For added realism, those captured are subjected to intensive questioning by experienced interrogation teams from Border Operations Units.

A West Point Cadet, undergoing summer training with the 54th Infantry, instructs a trooper in the use of the rifle grenade against enemy armor

Home away from home.



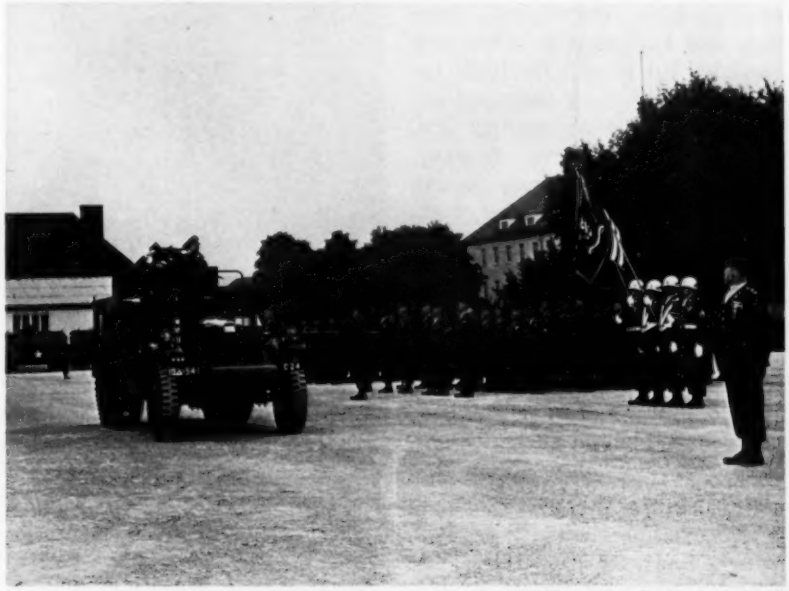
Tracks of the battalion swim the historic Neckar River near Heilbronn in Exercise "Cross-Current."

An original training program conducted recently by the battalion was a two-week Tank Hunter-Killer school. Each rifle company underwent a week of training in antitank obstacles, demolition, and employment of antitank weapons, then successfully put its training into use against a platoon of M48A1 tanks lent by the 1st Medium Tank Battalion, 37th Armor. This training culminated in a company-size helicopter-borne raid.

The Tank Hunter-Killer school was followed up by an intensive course in the attack of a fortified position. During the course, each rifle platoon of the battalion was trained in organizing assault teams for the reduction of concrete bunkers employing flame throwers, pole and satchel charges, and wire-cutting techniques under cover of mortar and machinegun fire.

Competitive marksmanship and athletics have added to the plaudits of the 54th. The 1960 battalion Prix LeClerc marksmanship team, competing in small arms competition named for the late French Marshal LeClerc, won the 4th Armored Division and VII Corps championships before bowing in the USAREUR matches to a 24th Division team which went on to win the NATO competition. Company level athletic teams of the Mailed Foot won division championships last year in volleyball and football, competing with teams from the eighteen other battalions of the division. In all fields, they are true to their division's motto, "They shall be known by their deeds alone."

The Armored Infantry has, in the past, been a sort of "half-breed" unit claimed by neither parent. There is evidence, however, that with the growth of the one-Army idea, attitudes are changing. The Infantrymen of this vigorous unit are proud of their foot-soldier heritage, and they strive to attain recognition of their rightful place in the Queen of Battle's family. Armored Infantry, as exemplified by the 1st Armored Rifle Battalion, 54th Infantry, combines the true mobility and inherent aggressiveness of its Cavalry-Armor heritage with the stalwart determination, courage, and tenacity of the Infantry to form a potent part of the Army team.



Lt General Meloy, CG of VII Corps, troops the line in the "Carol Lee," the battalion's restored WW II halftrack APC

# Remote Control For Better Communications

Lt Col Leroy F. McSherry

CAN RADIO be the principal means of communications for any tactical situation while it remains the most insecure and the most susceptible to deliberate interference by the enemy? The answer is "Yes." Necessity has raised radio from the alternate or back-up electrical means of communication to the primary means in many situations as dictated by a requirement for greater dispersion and a higher degree of mobility for all tactical units. This necessity, which forces increased use and dependency upon an inherently insecure medium for command communication, places a requirement on commanders at all echelons to emphasize every facet of radio communication training.

An occasional class in radiotelephone procedure, covering only the ten forbidden transmission practices, may look good on a training schedule, but it will do little toward providing your radio system with the degree of security and reliability it must have. A more suitable training program would include the actual operation of all organic radio sets to include means of obtaining high and low power outputs, alternate antenna systems, proper methods of de-tuning, and other means of combating enemy jamming. This training must be given to all users of radio, particularly commanders and leaders, not to radio operators alone. Communications, particularly the ability to operate organic radios in such a manner as to reduce their vulnerability to interception and jamming, cannot be considered a minor technical subject to the Infantryman of today's Army; he must be as familiar with all the best communication operating techniques as he is with the operation or employment of his weapon.

How far should you go in a training program like this is a fair question in view of all the mandatory training already prescribed. The key, I believe, is the word "organic." If equipment is authorized by TOE, everyone who might be required to use it should know how to use it. Then there is the equipment about which, though organic, so little is known of its capabilities that it goes unused by default. The Remote Control Group, AN/GRA-6, is in this category in many units.

The AN/GRA-6 is twenty-one pounds of equipment which adds great flexibility to your radio system and provides a means of reducing your exposure to both enemy interception and jamming while adding to the operating range of your radio in the direction of friendly stations. You can completely control any one of your vehicular or back-pack FM radio sets from a position up to three kilometers away from the radio site, turn power on and off, receive and transmit.

If you do not need "power on-off" control, you can fully operate

Figure 1

*This article is in consonance with current doctrine as taught at the United States Army Infantry School.* —Editor.

any two of these radios from your remote site three kilometers away, and you will also have telephone communication between your remote site and your radio site no matter which of these two operational modes you employ.

The price? Laying a field wire between the radio and the remote site. Before you say the price is too high, let us consider the possible reduced prices and the advantages. Three kilometers of wire is the maximum price, and even this amount of wire will not normally be required for use at Battle Group level and below. How far is it from your chosen, most desirable, OP or CP site to the high ground that would be the most desirable receiving and transmitting radio site? Do not answer too quickly! That radio site is the key to more secure, more reliable and longer range communications. It should be high and unobstructed by any large land mass between you and all the other stations with which you want to communicate. It should also be on a reverse slope from the enemy so that transmitted signals are blocked in the direction of the enemy lines and by the same token, your antenna is protected from the full strength of any jamming signals coming from enemy transmitters. The distance to this ideal radio site might be one hundred meters, four hundred meters or perhaps even one and a half kilometers. It depends on the type terrain over which you are operating. The advantages of improved communication, however, are constant, and yours to be had with a little prior planning.

If in your terrain studies you include considerations for proper radio siting along with your constant evaluation for mobility, maneuverability, avenues of approach, and other tactical considerations, you will find frequent and advantageous use for your remote control equipment.

Before considering a specific example of its use, let us look at the equipment, what it consists of and some possible applications. The Remote Control Group AN/GRA-6 is shown complete in Figure 1. The bag and local control will normally be kept in the radio vehicle or carried with the portable radios to the radio site. These weigh 13 pounds.

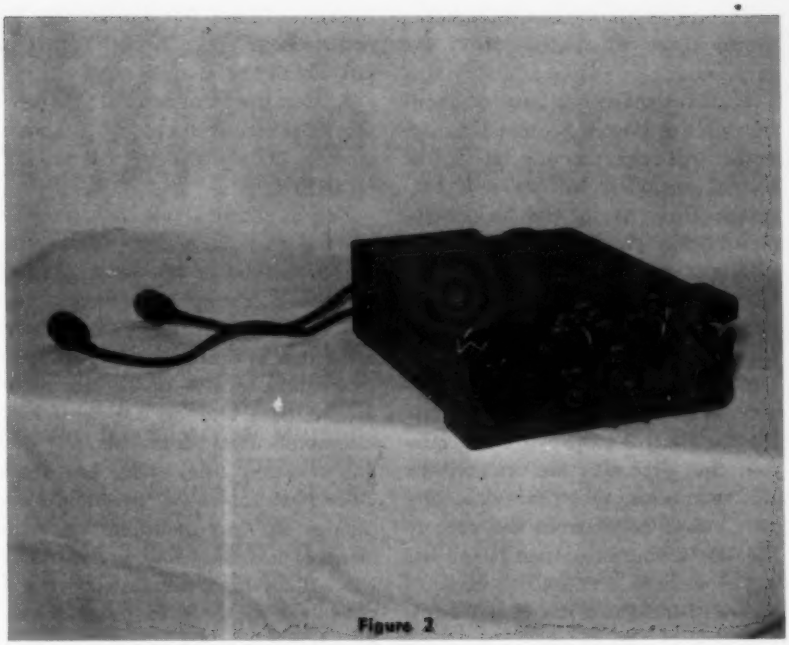


Figure 2

The remote control, handset, and carrying strap weigh eight pounds, and are carried by the potential user to the CP, OP or operating site from which it is desired to operate the radio(s).

The local control unit (Figure 2) can be connected directly to the audio connectors of any two of the portable Radio Sets AN/PRC-8, 9, or 10, or the vehicular radios of the AN/GRC-3 thru 8 series of radios. In addition, it can be inserted in the mount of any of the vehicular FM radios of the AN/GRC-3 thru 8 series of radios that employ the MT-297 or MT-298 mounting. When connected, and a handset from one of the two radios to be controlled is attached to the audio connector on the local control panel, complete operation, receiving and transmitting of both radios is possible by one operator. This may be the only type operation desired in a particular instance and of course only the local control is employed.

Now you wish to have the capability of using these radios, without moving them, from an OP or other site to which you will move. You can do this without losing the capability of radio communication, even while moving, if you use the Wire WD-1/TT reeled from the Wire Dispenser MX-306/U. The running end is attached to the two binding posts on the local control, and the standing end is attached to the two binding posts on the remote control, which is slung across the shoulders, and, with handset attached, becomes a continuous means of communicating back to your radio operator, using normal telephone type procedure, and/or a means of monitoring both radio nets and transmitting over either one as you desire. As long as you retain good wire connection between your remote control and the local control, preferably splicing at the end of each kilometer reel of wire, utilizing the Splicing Kit MK-356/G, you can retain your

radio and telephone communication up to three kilometers from the radio site.

Thus far there has been no mention of the power required to operate this equipment. It is, of course, supplied by dry cell batteries. Just as in two field telephones, for which, by the way, the local and remote units can always be substituted, two flashlight type batteries, BA-30, are used in each control to provide the talking current. In addition there is one battery, BA-414, required in the remote control to provide the current that activates the transmitter of the radios when transmitting over either radio from the remote site. As a simplified trouble-shooting procedure it is well to remember the function of these batteries, as much of the trouble associated with the use of this remote equipment stems from weak or improperly installed batteries. There are three basic checks:

1. If you can talk with a good strong signal in both directions but you cannot transmit over the radios from the remote position. Check: Your battery BA-414 in the remote control.

2. If at the remote unit you receive an answer to your ring from the local control, you can hear the operator there, but apparently he cannot hear you. Check: Your two BA-30s in the remote control.

3. If at the local control you have the situation described in 2 above. Check: Your two BA-30s in the local control.

For a practical example of just one possible use of this remote control group, let us take a busy man, the rifle company commander, who does not want to use extra equipment unless there is a definite gain to be had. He is operating a CP in defilade, and an OP one half kilometer away from his CP. He has installed a field wire line from CP to OP. Instead of two field telephones, he has installed his local control and one Radio Set AN/PRC-10 in his company command net at the OP, and his remote control in a dugout in his CP. Without considering at this time the capabilities of the longer range radios AN/VRQ-3 in his vehicle, he has complete control and access to his company command net whether he is at his CP or OP and of course he has retained the use of the telephone circuit between these two sites. Here he has used one radio set and the remote control group where he formerly used two radios and two telephones. The equipment saving and the flexible use of one radio from two locations are bonus effects. The real aim and gain is in the choice siting of your radio and antenna on high ground.

If the most desirable radio site should be a hundred meters or so below or away from the most desirable place for observation, a simple solution is available. Install the field wire so that it passes through the local control (radio site) to a field telephone at the OP. You now have your remote control at the CP, and the local control and the OP telephone hot looped for telephone communication without losing your radio remote control from your CP site.

Radio is not a secure means of communication and it is susceptible to enemy interference. This is true today and, in the forward combat areas, it will probably be true on any day you take your unit into combat. Proper radio siting, made possible and practical through the use of your remote control group, coupled with correct radio operation and the proper use of radiotelephone procedure, can increase the security of your transmissions and reduce interference from enemy jamming. You will have to be the judge as to whether or not it is worth the time and effort.

## Battle Group R & S Forces

(Continued from page 20)

between now and the availability of a zero ground pressure vehicle which approaches the optimum in a reconnaissance vehicle. We should be realistic and realize that these vehicles are still a long way from being available in the quantity necessary. When they are available, they should be made part of a scout platoon-type organization rather than the reconnaissance platoon type insofar as the Infantry battle group is concerned.

We must face the fact that our battle group reconnaissance and security capability is weak. At less expense than it costs to procure and support a reconnaissance platoon, and for no more personnel, we can increase that capability now by adopting the scout platoon.

CAPT MILLENER was commissioned upon graduation from the University of Maryland in 1950. He has served as a tactical officer and company commander with the Officer Candidate School and as a company commander and battalion S3 with the 1st Infantry Division. A graduate of the Advance Course, Captain Millener is now an instructor with the Fundamental, Review and Doctrine Section, Command and Staff Department, USAIS.

# Rifle Platoon in the Attack

WITH THIS issue we re-introduce a feature which was regular with the *Quarterly*, a problem-solution article as prepared for use at the Infantry School. The entire tactical situation will be portrayed, pertinent sketch maps will be given to you, and a specific requirement will be stated. Following that will be a solution as evolved at the Infantry School, but more important than that will be the discussion of factors which should have been considered. We recommend, of course, that you use this as a self-administered test and that you refrain from reading the solution until you think your own solution is fixed. If any reader has specific tactical subjects (at or within battle group level) which he especially desires applied to this feature, we ask that he please let us know. If one does not already exist, we will ask the appropriate department to assist us in preparing one.

This article was prepared for USAIS under the auspices of the Ranger Department, and is entitled Problem 8640-B4.—Ed.

**SITUATION:** There are known enemy positions on HILLS C, K, F, and J. The enemy strength on HILL C is estimated to be one reinforced rifle squad with automatic weapons. Observation within the woods is restricted to 75-100 meters. The average height of the trees is 20 feet. The open areas have knee-high grass, and all streams are fordable. Contour interval is ten feet. Your rifle platoon holds HILL A. You are the ONLY FRIENDLY UNIT in the area. You are UNSUPPORTED. There are no zones, boundaries, or other limitations. Your mission is to seize HILL C and be prepared to continue the attack to HILL F on order.

1. **FIRST REQUIREMENT:** Considering the situation, make your plan of attack to seize HILL C. Lightly draw in on the map your PLATOON ROUTE, TENTATIVE LOCATION OF ASSAULT LINE, and SQUAD SECTORS FOR CONSOLIDATION OF HILL C. Draw in your MACHINEGUN INITIAL POSITIONS, POSITIONS DURING ASSAULT, AND POSITIONS FOR CONSOLIDATION.

2. **SECOND REQUIREMENT:** Answer the following questions.

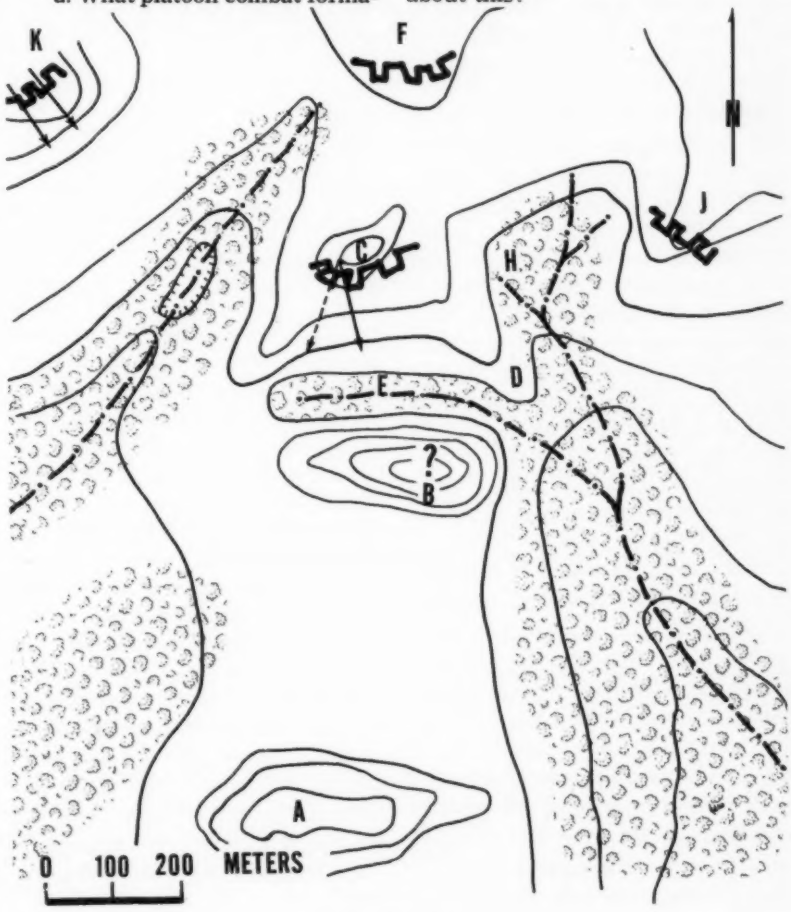
a. What platoon combat formation will you use as you move forward from HILL A?

b. How many rifle squads will you use in the assault?

c. Where will your rocket launcher be as your platoon moves forward?

d. Are you going to seize any intermediate terrain? If so, what terrain and why?

e. During your planned assault of HILL C, from what terrain features can enemy bring direct fire to bear on your assaulting squads? What do you plan to do about this?



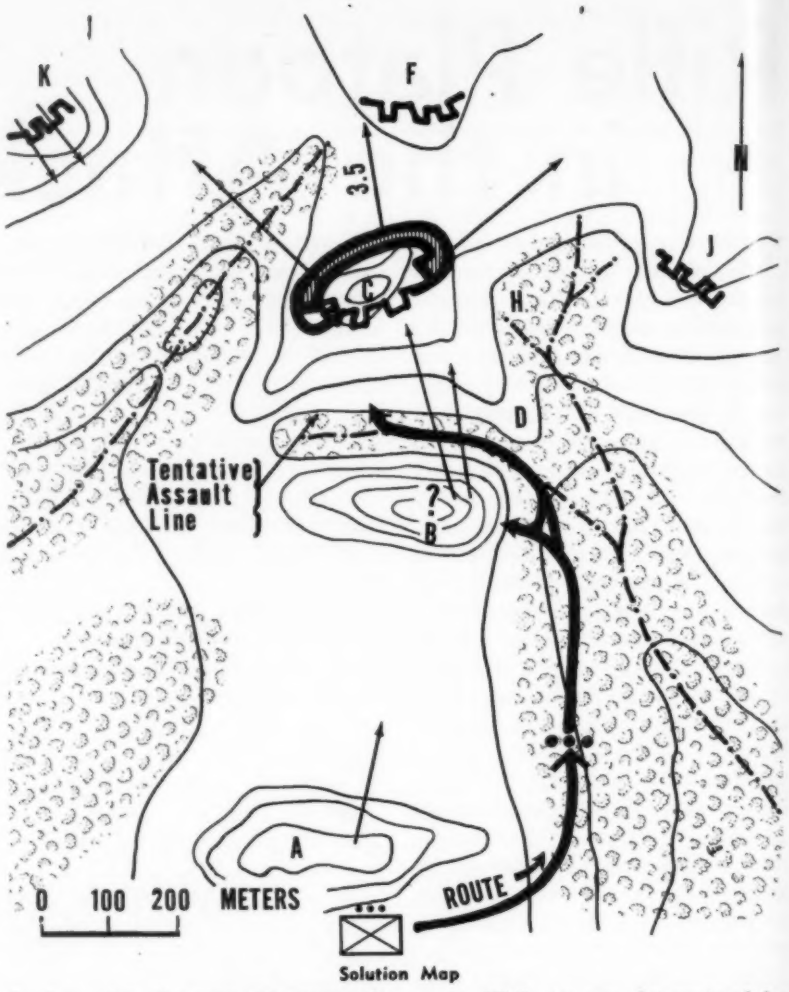

Situation Map

**1. SOLUTION TO FIRST REQUIREMENT.**

The elements of the plan of attack for the unsupported platoon attack situation in the first requirement are as shown on the sketch above. The route, formation, assault, and consolidation portions of the maneuver plan are indicated on the sketch. Initially, one LMG will support the movement of the platoon from HILL A. When the platoon has reached and seized HILL B, this LMG will displace to HILL B and go into position with the other LMG of the weapons squad. Initially, the 3.5" RL will accompany the rifle platoon as it moves to HILL B. In consolidation, the 3.5" RL will be positioned in the center squad's sector. One LMG will be positioned in the left squad's sector, and the other LMG in the right squad's sector. The platoon will assault with three squads on line and consolidate as shown on the sketch.

**Discussion of Solution.** There are advantages and disadvantages to any conceivable plan of attack for the unsupported platoon. The rifle platoon leader must weigh these advantages and disadvantages and decide which plan offers him the best possibility of success. The most obvious disadvantage of the solution selected is that it is a frontal attack. Another disadvantage is that by assaulting frontally, we will mask the fires from our supporting weapons on HILL B sooner than if these weapons were located to the flank of our assault.

The major advantage of the plan of attack is that it affords the platoon leader the maximum control over his platoon. In any platoon attack, control is of prime importance. From the tentative assault line selected, we can launch a short aggressive assault against the objective. Any planning to assault the enemy from the flanks must take into consideration that it will expose the assault line to enemy fire from other positions to the flanks and to the rear. The strength of the enemy has a decided effect in determining whether the risk of a frontal assault outweighs the risk of assaulting from the flank and receiving enemy fire from the flanks and possibly from the rear.



Solution Map

**2. SOLUTION TO THE SECOND REQUIREMENT.**

a. The platoon wedge was the preferred combat formation in this situation because it provided the platoon with a degree of security to both flanks and to the front as it moved through the woods.

b. All three rifle squads were used in the assault since there was sufficient room to deploy them and achieve the maximum amount of firepower to the front of the platoon.

c. The RL accompanied the platoon. With its use determined by the terrain and the effective range to the weapon, it provided the platoon with close fire support throughout the attack.

d. HILL B will be seized by the platoon as an intermediate objective because it is critical to the attacking platoon leader as a position for his fire support weapons during the assault and also provides him with security as he moves past.

e. By launching a frontal assault, the platoon leader prevents the enemy on the positions at K, F and J from firing on the assault line. Any assault from the flanks of the objective must consider whether the enemy positions at K, F and J can place effective fire on his assault line.

**TEACHING POINTS**

1. The mission of the Infantry in offensive action is to close with and destroy or capture the enemy.

2. All leaders of a rifle platoon have specific duties to perform in the assembly area, the attack position, during the assault, and on the objective.

3. Upon seizing an objective, rapid consolidation, followed by reorganization, is necessary to repel possible counterattacks.

4. The mission of the weapons squad in the attack is to provide close fire support and antitank protection for the platoon.

5. Prompt, aggressive action is the key to successful squad and platoon offensive action.

6. Fire and maneuver are the basis of all Infantry offensive action.

7. The assault is the most vital and critical phase of an attack.

8. To carry out the mission of the Infantry in offensive action, three tasks must be accomplished: find and fix, fight, and finish the enemy.

9. A rifle platoon will normally execute a frontal or a flank attack. It may participate in an envelopment, but will not normally execute one by itself.

10. A plan of attack consists of a maneuver plan and a fire plan and is the basis for the platoon attack order.

11. A rifle platoon attack may be controlled through the use of boundaries, a zone of action, an axis of advance or a direction of attack.

12. Additional fire support increases the maneuver capability of the attacking rifle platoon.

13. Troop leading steps are a logical sequence to follow in organizing a leader's time and thoughts in preparing for an attack.

# COMBAT LESSONS

Following are extracts from *Combat Lessons* (World War II Combat Reports), *Combat Report from Korea*, and *ORO Report R-13*. They are brief, pertinent and worthwhile to Infantrymen.

**Motor Sgt:** "When officers checked at least one item on each vehicle before using, drivers used more care in first echelon maintenance."

**Rifle Platoon Leader:** "Two bandoleers should be issued to every rifleman before an attack to cover his needs during reorganization . . . Every effort must be made, however, to get ammunition forward as soon as the objective is taken . . ."

**Communication Officer:** "One fast method of elevating wire to keep it from being run over by vehicles is to slash trees at above shoulder height and lay the wire in the gash between the trunk and the peeled back bark. This obivates making a tie, which was the more frequent cause of wire shorts.

**Rifleman:** "Make sure that you have perfect cover when you challenge at night. Many of our challenges were answered by fire, and many lives were lost unnecessarily. . . ."

**Mortar Squad Leader:** "When covering an area target with 81-mm mortars, we wait two or three minutes between each group of two or three rounds. This pause gives the enemy time to get up and move around; otherwise, the enemy stays under cover and no casualties are inflicted after the first few rounds."

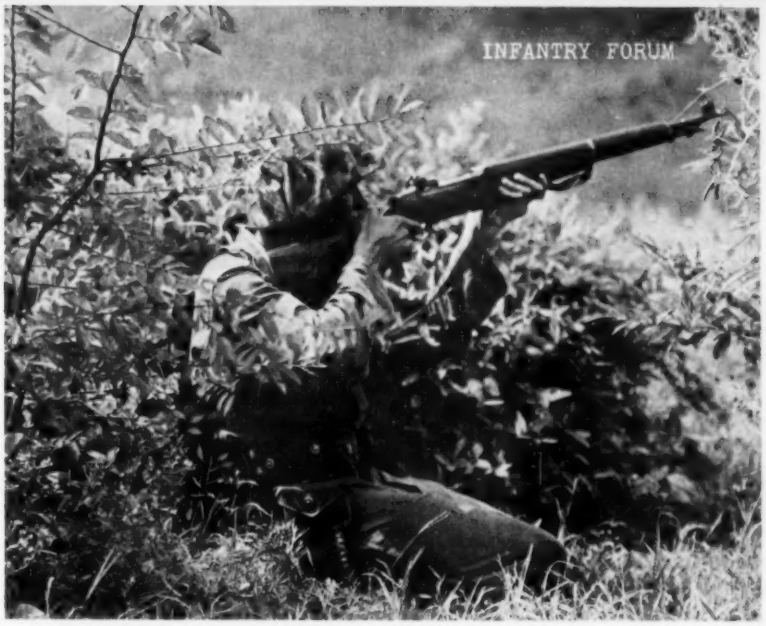
**Headquarters Company Commander:** "In forward areas, the use of CP signs and CP guides should be strictly limited. All CP signs should be removed during hours of darkness, and their use during daylight hours should be governed by enemy observation. Guides should not stand boldly on guard at the entrances to CPs, but should be in a foxhole at a distance where they can accomplish their mission . . . without giving away the location of the CP. . . ."

# OPERATION ORDER . . . Test

ARE YOU SURE of yourself in preparing an operation order? Here is a test to see if you really know where to fit the component parts of an actual defense order. All necessary entries are given, but they are in random order. Assume you are the S-3, 1st Battle Group, 87th Infantry, 10th Division. The object of the exercise is to produce a complete defense order, less heading, ending, annexes, and authentication. After you have completed your test, turn to page 54 for the completed order.

- Hv Mort Plat: GS.
- Co report CP locations.
- Annex A, Intelligence.
- 1st BG, 87th Inf, defends by 251400 Jun from Hill 341 (7188) to Hill 221 (7885), both inclusive.
- Co E, 2d Med Tk Bn, 69th Armor, remains attached.
- Recon Plat:
  - (1) Maintain contact with GOPL.
  - (2) After withdrawal of GOPL through COPL, rear area security.
- Administrative Order 2.
- Co E, 41st Engr Bn, in DS 1st BG, 87th Inf.
- Co A:
  - Attached: One sqd, Aslt Wpn Plat.
  - Plat APC, Co C (Armd Carr), 30th Trans Bn.
  - One short range team, Radar Sec.
- Plat (augmented with one APC), Co C (Armd Carr), 30th Trans Bn:
  - (1) Attach four APC each to Co A, B, D, and E, 1st BG, 87th Inf.
  - (2) Plat (-): Attached to Co C; prepare to assume control of organic elements upon withdrawal of COPL.
- Radio listening silence lifted only on contact by enemy.
- Co D:
  - Attached: Aslt Wpn Plat (- 3 sqd).
  - Four APC, Co C (Armd Carr), 30th Trans Bn.
  - One short range team, Radar Sec.
- 2d BG, 10th Inf, occupies GOPL; holds enemy north of COPL until 262400 Jun.
- Concept of operation: 1st BG, 87th Inf, defends employing Co A, E (1st BG, 87th Inf), D, and B from west to east in that order. Co C, occupying blocking position, and Co E, 2d Med Tk Bn, in an assembly area are the BG reserve. Nuclear support is available. Hv Mort Plat is in GS.
- Aslt Wpn Plat:
  - (1) Attach one sqd each to Co A, B, and E, 1st BG, 87th Inf.
  - (2) Plat (-): Attached to Co D.
- Engr Plat: GS; accept missions from Co E, 41st Engr Bn.
- Index 1-5, SOI.
- 10th Inf Div defends by 251400 Jun from EELBECK (6591) to CONNORS (8581), both inclusive.
- BG reserve:
  - (1) Co C:
    - Attached: 2d Plat, Co E, 2d Med Tk Bn, 69th Armor.
    - Plat (- sixteen APC), Co C (Armd Carr), 30th Trans Bn.
    - (a) Attach 1st Plat (mechanized) to Co E, 2d Med Tk Bn, 69th Armor.
    - (b) Co (-): Prepare Positions X, Y, W, and Z in that priority; occupy Position X.
  - (2) Co E, 2d Med Tk Bn, 69th Armor:
    - Attached: 1st Plat (mechanized), Co C.
    - (a) Attach 2d Plat to Co C.
    - (b) Co (-): Prepare to occupy Position Y or W on order.
    - (c) Prepare positions to add depth to antitank defense.
- Annex B, Operation Overlay.
- Emergency signal for final protective fires: Red star cluster.
- Co E, 1st BG, 87th Inf:
  - Attached: One sqd, Aslt Wpn Plat.
  - Four APC, Co C (Armd Carr), 30th Trans Bn.
  - Two short range teams, Radar Sec.
- 1st How Bn (105 mm/155 mm) (Towed), 7th Arty, in DS 1st BG, 87th Inf.
- One plat (augmented with one APC), Co C (Armd Carr), 30th Trans Bn, attached effective 251100 Jun.
- Coordinating instructions:
  - (1) COPL occupied by minimum of one reinforced mechanized rifle plat per forward co.
  - (2) Forward co prepare to release attached armd carr upon withdrawal of COPL.
  - (3) Annex D, Surveillance Plan.
  - (4) Annex E, Counterattack Plan.
- Annex C, Fire Support Plan.
- One sqd, Co A (Trk), 30th Trans Bn, attached effective 251200 Jun.
- Co B:
  - Attached: One sqd, Aslt Wpn Plat.
  - Four APC, Co C (Armd Carr), 30th Trans Bn.
  - One short range team, Radar Sec.
- 2d Rkt How Bn (HJ, 8 In), 9th Arty, in GS 10th Inf Div.
- Radar Sec:
  - (1) Attach one short range radar team each to Co A, B, and D.
  - (2) Attach two short range radar teams to Co E, 1st BG, 87th Inf.
  - (3) Sec. (-): GS; establish two medium range radar sites in Position X.
- EXECUTION
- MISSION
- COMMAND AND SIGNAL
- SITUATION
- ADMINISTRATION AND LOGISTICS
- Enemy forces:
- Friendly forces:
- Command:
- Attachments and detachments:
- Signal:

# THE LONG RANGE RIFLE




**Sgt Buckhorn**

FIRECRACKERS were invented to scare away evil spirits, and the shooter was assured that he was doing *something* about the situation. Unfortunately, he could never be quite sure just how well his magic was working. After it was discovered that such explosives would propel a projectile, the most successful early adaptation was in a tube launching multiple projectiles. The modern refinement is, of course, the shotgun. Filling the air with scrap iron or lead, and so multiplying the chance of random hits, is effective at short ranges partly because there is less air to fill at short ranges and partly because it requires less skill to occasionally bring down moving or fleeting targets. As the principles of obturation and gyrostatics were slowly evolved and applied to firearms, it became feasible to launch a single projectile at a distant target with some chance of success. The degree of success depended on the excellence and compatibility of the tube, the projectile, the propellant, the gunner and, to a lesser extent, the sights on the weapon. The multipurpose, semi- or fully automatic rifle attempts to incorporate all of these factors in a single arm.

In its role of firecracker, scaring "evil spirits" into keeping their heads down so they can't fire back (we call this process firepower, fire superiority, etc.), the rifle undoubtedly performs a useful service, though just how effective it is nobody knows. There have been efforts to research the amount of deterrence in the noise, commotion, dirt-flying, and bullets cracking overhead*; but as it is virtually impossible to reproduce battlefield stress without real battle, and likewise difficult to make observations in the thick of combat, only speculative conclusions are possible. These may be colored according to individual experience, prejudice, or vested interest. Studies of rifle performance in the Korean conflict indicate that aimless shooting, while perhaps of psychological value, has a low physical pay-off (15,000 rounds per casualty, 50,000 per death, according to one report). Someday a scientist may find a way to put the factors — risk of getting hit versus risk of crouching in cover and doing nothing until the grenades or bayonets arrive — into a computer and come up with the answer that it is better to stick your head up, take careful aim, and kill the combatant who has fire superiority. Or, a ruthless foe might inure his soldiers to terrifying racket, by drugs or brainwashing, and so circumvent firepower.

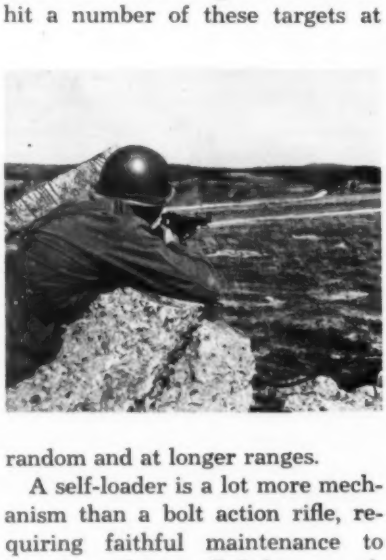
On our own account, we might make some tactical studies of the attack, for instance, wherein the advancing men use little or no rifle ammunition, but are covered from less exposed positions by support weapons and long-range riflemen who shoot only at exposed targets (weapons crews, grenade throwers, leaders, the curious or indiscreet) and hit them most of the time with one shot. In any event, a rifle is a compromise and is less than ideal as a firecracker, mainly because ammunition is heavy and expensive for that use alone. Unlike using other "mass" weapons, an individual man often has to carry his total weapon and ammunition supply, and this is serious if he is already hampered with other gear, protective clothing, and fatigue. There is no way of telling at a glance (as with a machinegun) when it is about to run out of fodder; and reloading is frequent, awkward, and too slow if the mo-

* "Psychological Effects" of various weapons, *Research Studies III, IV and VI, Psychological Research Associates*, June & July, 1957. These indicate that the infantry rifle is least feared of all weapons in both attack and defense, much below the light machinegun and mortar, and always less than automatic rifle, recoilless rifle and hand grenade.

ment is critical, as in the assault.

In low visibility, or when targets are close and moving, a shotgun is a good thing to have. This was demonstrated in World War I when we used shotguns so effectively that the Germans (who introduced poison gas) objected to them on humanitarian grounds and made it stick. For this and other reasons, military developments in the art of filling the air with lead went toward light, fast-firing autoloaders or full auto, using light-weight ammunition of short range (but long enough for the purpose). Some neat and wicked versions were evolved by all armies of the world, and they are still in use. *Except here.* For "economy" we preferred to give a shotgun capability to our rifle, where it now resides with all the disadvantages enumerated above. This makes it necessary for many non-riflemen on the battlefield (constantly increasing in number) to carry a rifle anyway, or to rely in a firefight on a 7-shot pistol, model 1911, with which they often cannot hit a stationary man at six paces.

This leaves for discussion the performance of our rifle as a precision launcher. How good is it? We cannot judge from demonstrations we have seen of the M-1 and M-14 rifles, where a prone rifleman riddles a 2-inch bullseye at 25 yards, putting 40 to 60 rounds into it in as many seconds. To begin with, this rifle is probably specially selected and may be accurized; it probably used match ammunition; and the rifleman, shooting from the most solid position, probably has years of prone bullseye shooting behind him. Furthermore, *there is no object whatever in putting 60 rounds in a single spot.* On personnel, one bullet will do the job with this weapon which telegraphs no warning and for which no body armor is effective. As a firecracker demonstration it would be better to see how well the rifleman could stitch his shots, almost grazing the ground but not touching it, in an area of suspected enemy occupation. As for its shotgun capability, we would want to see how well he could sustain a hail of bullets and get a few hits on close, moving targets swarming towards him, perhaps from behind smoke, or perhaps from all directions. Both of these operations, while requiring only nominal accuracy, would require a rapid shift of aim and lightning reload, probably from an unsteady or hastily assumed position. Precision is not demonstrated. A 2-inch bullseye at 25 yards is roughly 8 minutes of angle, about as wide as a man facing the shooter at 250 yards. We would like to see how well and how fast a good man could hit a number of these targets at



random and at longer ranges.

A self-loader is a lot more mechanism than a bolt action rifle, requiring faithful maintenance to keep it working well. It has a much tighter bolt lock, one of the essentials for long-range accuracy, necessarily compromised to provide reliable operations. Of any 100 brand-new rifles tested in a machine rest with service ammunition, it is doubtful that even half would keep all shots within 5 minutes of angle, but, with some doing better and some worse, the groups might average about 5 minutes. What they will do after combat use and abuse is anybody's guess, but when new, if perfectly held, they can hit a man at roughly 350 yards.

So much for the weapon. What about the man using it? For one reason or another, our hastily trained civilian riflemen are rarely able to attain 5-minute reliability, even when their weapons and loads are good enough, when they shoot from solid positions at a leisurely pace, and when they spend much of their training ammunition on "precision" shooting. Since their weapon will perform only to about 5 minutes, if that (many still have to train with old combat rifles), it would require perfect human performance to exploit it to that accuracy. They may be lucky to hit a 350-yard static silhouette half the time, and will not be absolutely reliable to much more than 100 yards. There simply isn't enough time, ammunition, ranges, or coaches to make experts of them.

The gist of this is that we have placed heavy bets — in design of weapons, training, and tactics — on the psychological and shotgun capabilities of the rifle, abandoning in broad principle the concept of the long-range rifle, no matter what we say in service manuals about shooting to 500 or 600 yards with it. Couldn't there be specialists, "snipers," for knocking out key personnel, positions or equipment, for defending road blocks or performing delaying actions at long range, for recons — men who could also give invaluable assistance in a "normal" attack or defense?

If we had a good sprinkling of such men in the TOE of the battle group who could, with 2-minute rifle-loads, reach out to 600 yards as readily as the average riflemen can reach 300 yards now with 5-minute rifle-loads, this capability should be immensely useful in the dispersed and fluid battlefield envisioned for the future. The 300-yard man commands an area around him of about 58 acres; the 600-yard man commands an area four times that, or 233 acres, with the added dividend that the enemy in the more distant territory will be less expectant of such fire,

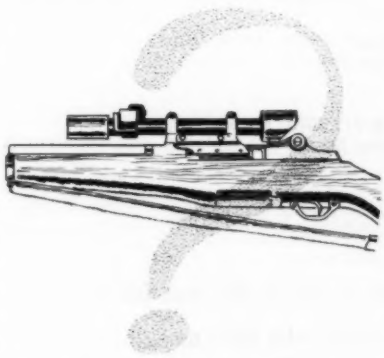
and will find it more difficult to locate the source of the occasional lethal bullets in order to return effective fire.

A man's body, face-on at 600 yards, will subtend between 3 and 4 minutes of angle. (A strip of paper ⅛" wide, placed 10 feet from the eye, will represent it. The front sight of the M1, with the eye still at the same distance, will look about twice as wide as the target.) This is no impossible object to hit much of the time if the man has a 2-minute rifle-load and can estimate range and wind velocity.

There are liberal quantities of sporting arms in being which meet most of the sniper's requirements of weight, reliability, and precision. Even the smallest hardware store will probably have in stock at least one bolt action rifle in 30-06 or .308 Win. (same as NATO) caliber which, with hunting ammunition from the same shelves, will group to about 2 minutes. With match ammunition it will do slightly better than this, and sustain its accuracy better at extreme ranges. The tight-locking bolt, no disadvantage to a man who shoots deliberately once or twice and moves his position, will maintain this accuracy indefinitely. Recently I saw some 1½-minute groups shot with such a rifle at 100 yards, using the factory-installed front bead and notch rear sights, match ammunition, and a round bullseye.

As to sights, the mode now with gentlemen sportsmen (whose lives do not depend on rifles, who do not have to carry much food or survival gear, and who have some choice of weather, transportation and terrain) is the telescopic sight. But even with sportsmen, the trend is towards quickly detachable mounts and auxiliary iron sights. This is because the telescope, though excellent when all is in order, is unhandy and unreliable when the going is rough, and had better be checked frequently for zero. While sometimes useful for identifying a target, it cannot be compared with even shirt-pocket binoculars for searching. The matter of using or not using scopes can be resolved with experimentation, recognizing that in any event the sniper is to be trained with iron sights. If the answer is to use scopes, there are good ones available, and some, but not many, good mounts (which are as critical as scope optics). But the point is, scopes or not, we could have a very superior rifle capability with off-the-shelf hardware and, in that respect at least, get into the sniper business at once.

More difficult is finding, and then training to tolerable proficiency, the man at the trigger. By this is meant, first, the capability of one-



shot kills on personnel targets at 500 to 600 yards, with corresponding proficiency on moving targets at all inclusive ranges. Assuming there is an appreciable percentage of individuals in the population who have this potential, we have as yet no good way of finding them in the stream of civilian inductees.** The sifting procedure should be independent, if possible, of attained weapon proficiency; otherwise, too many uncontrolled variables come into play. Secondly, we need a man with personality traits compatible with the sniper's mission.

** Very little work seems to have been done on this. One of the earliest, and in some ways the best, experiments is described in "The Abilities of an Expert Marksman Tested in the Psychological Laboratory," Arthur L. Gates, *Journal of Applied Psychology*, March 1918, Vol. II, pp 1-14. There may be technical objections to the test procedure, but at least it defines the problem.

After basic training, candidates for sniper would be intensively drilled in precision firing, quick fire at moving targets, range and wind estimation, and target detection with binoculars. Concurrently, and equally important, would be training in the vanishing skills of woodcraft — stealth, endurance, reading "sign" and terrain, survival, etc. Our Ranger training could contribute some parts, and it might be lucrative to study the techniques of still-practicing remnants of more primitive societies whose existence still depends on outdoor skills — in Alaska, Canada, South America, Africa and Australia.

After forging the weapon of long-range precision, how would we use it? There are many viewpoints, and all should be considered. They range from lone-wolf or buddy teams to mounted recon units with communications equipment, organic to everything from the platoon to the battle group. A great deal would depend on how many, how good, and how long it takes. Knowing these factors, tactical planners should be able to make good use of snipers.

We could begin tomorrow. Here is the balance sheet:

**Factors Requiring No Research & Development.**

1. Suitable rifle.
2. Match ammunition.
3. Compact binoculars.
4. Auxiliary scope & mount (optional).
5. Deliberate shooting techniques (static targets).

**Requiring Some Experimentation.**

1. Content and length of training program, including maintenance of proficiency.
2. Assignment and tactical use of sniper.

**Requiring New and Continuing Research & Development.**

1. Selection of sniper candidates.
2. Range estimation (technique or rangefinder).
3. Technique of fast shooting, especially at moving targets.

Copy No 1
1st BG, 87th Inf
733823
251000 June 1965
B5Y

(Continued from page 50)

Operation Order 9
Reference: Map, GEORGIA, 1:50,000 CUSSETA Sheet.

1. SITUATION
   a. Enemy forces: Annex A, Intelligence.
   b. Friendly forces:
      (1) 10th Inf Div defends by 251400 Jun from EELBECK (6591) to CONNORS (8581), both inclusive.
      (2) 2d BG, 10th Inf, occupies GOPL; holds enemy north of COPL until 262400 Jun.
      (3) 1st How Bn (105mm/155mm) (Towed), 7th Arty, in DS 1st BG, 87th Inf.
      (4) 2d Rkt How Bn (HJ, 8 In), 9th Arty, in GS 10th Inf Div.
      (5) Co E, 41st Engr Bn, in DS 1st BG, 87th Inf.
      (6) Annex B, Operation Overlay.
      (7) Annex C, Fire Support Plan.
   c. Attachments and detachments:
      (1) Co E, 2d Med Tk Bn, 69th Armor remains attached.
      (2) One plat (augmented with one APC), Co C (Armd Carr), 30th Trans Bn, attached effective 251100 Jun.
      (3) One sqd, Co A (Trk), 30th Trans Bn, attached effective 251200 Jun.
2. MISSION
   1st BG, 87th Inf, defends by 251400 Jun from HILL 341 (7188) to HILL 221 (7885), both inclusive.
3. EXECUTION
   a. Concept of operation: 1st BG, 87th Inf, defends employing Co A, E (1st BG, 87th Inf), D and B from west to east in that order. Co C, occupying blocking position, and Co E, 2d Med Tk Bn, in an assembly area are the BG reserve. Nuclear support is available. Hv Mort Plat is in GS.
   b. Co A:
      Attached: One sqd, Aslt Wpn Plat.
      Four APC, Co C (Armd Carr), 30th Trans Bn.
      One short range team, Radar Sec.
   c. Co B:
      Attached: One sqd, Aslt Wpn Plat.
      Four APC, Co C (Armd Carr), 30th Trans Bn.
      One short range team, Radar Sec.
   d. Co D:
      Attached: Aslt Wpn Plat (- 3 sqd).
      Four APC, Co C (Armd Carr), 30th Trans Bn.
      One short range team, Radar Sec.
   e. Co E, 1st BG, 87th Inf:
      Attached: One sqd, Aslt Wpn Plat.
      Four APC, Co C (Armd Carr), 30th Trans Bn.
      Two short range teams, Radar Sec.
   f. Hv Mort Plat: GS.
   g. Aslt Wpn Plat:
      (1) Attach one sqd each to Co A, B and E, 1st BG, 87th Inf.
      (2) Plat (-): Attached to Co D.
   h. Engr Plat: GS; accept missions from Co E, 41st Engr Bn.
   i. Radar Sec:
      (1) Attach one short range radar team each to Co A, B and D.
      (2) Attach two short range radar teams to Co E, 1st BG, 87th Inf.
      (3) Sec (-): GS; establish two medium range radar sites in Position X.
   j. Recon Plat:
      (1) Maintain contact with GOPL.
      (2) After withdrawal of GOPL through COPL, rear area security.
   k. Plat (augmented with one APC), Co C (Armd Carr), 30th Trans Bn:
      (1) Attach four APC each to Co A, B, D and E, 1st BG, 87th Inf.
      (2) Plat (-): Attached to Co C; prepare to assume control of organic elements upon withdrawal of COPL.
   l. BG reserve:
      (1) Co C:
         Attached: 2d Plat, Co E, 2d Med Tk Bn, 69th Armor.
         Plat (- sixteen APC), Co C (Armd Carr), 30th Trans Bn.
         (a) Attach 1st Plat (mechanized) to Co E, 2nd Med Tk Bn., 69th Armor.
         (b) Co (-): Prepare Positions X, Y, W and Z in that priority; occupy Position X.
      (2) Co E, 2d Med Tk Bn, 69th Armor:
         Attached: 1st Plat (mechanized), Co C.
         (a) Attach 2d Plat to Co C.
         (b) Co (-): Prepare to occupy Position Y or W on order.
         (c) Prepare positions to add depth to antitank defense.
   m. Coordinating instructions:
      (1) COPL occupied by minimum of one reinforced mechanized rifle plat per forward co.
      (2) Forward co prepare to release attached armd carr upon withdrawal of COPL.
      (3) Annex D, Surveillance Plan.
      (4) Annex E, Counterattack Plan.
4. ADMINISTRATION AND LOGISTICS
   Administrative Order 2.
5. COMMAND AND SIGNAL
   a. Signal:
      (1) Index 1-5, SOI.
      (2) Radio listening silence lifted only on contact by enemy.
      (3) Emergency signal for final protective fires: Red star cluster.
   b. Command: Co report CP locations.

Capt. William R. Perry

# Chemical Support for the Battle Group

Much has been written and even more said about the capability, strength and possibilities of the present-day battle group. Its logistical support has been streamlined, its communications improved, new weapons introduced and, in general, it is perhaps a better all-around fighting unit than its predcessor, the regiment. However, as the amount and complexity of the Army's chemical equipment grows, and as the likelihood increases that some form of CBR warfare will be used by our enemies in future conflicts, we need, in the battle group, a team of specialists who can deal successfully with the problems which will arise in this field. That is why the battle group should have — must have — an organic Chemical Platoon.

Under the current organization, there are important items of chemical equipment which the battle group TOE does not include. For example, flame throwers are considered special-purpose weapons and are available only at ammunition supply points for issue as Class IV supplies. Many times it is impossible for commanders to foresee tactical needs and request flame throwers far enough in advance to insure that they are available when needed. Furthermore, the need for flame throwers in combat is a recurring one, so much so that they should be made available to the battle group commander as TOE equipment. But in one sense, the flame thrower is a special item of equipment, and specialists should be used to operate it most effectively. Much the same thing could be said of other chemical weapons. Specialists are needed to operate them, and that is where the organic Chemical Platoon comes in. This platoon would be part of the Combat Support Company (Figure 1) with a TOE as shown in Figure 2. The platoon leader, a Chemical Corps officer, would serve as a special staff officer under the supervision of the battle group S3.

The proposed platoon is organized with one officer and twenty-six enlisted men. The enlisted men of the platoon are Infantry personnel who are also trained and proficient in certain Chemical Corps functions. The platoon could perform tactical missions in support of the battle group, aid in training, and provide advice and assistance in matters pertaining to CBR warfare.

The platoon has a headquarters consisting of one officer and three enlisted men. The officer and platoon sergeant perform normal command and supervisory functions over the platoon. The other two enlisted men of the platoon headquarters are mainly concerned with second echelon maintenance of the battle group's chemical equipment. In the event of nuclear warfare, this group would be capable of performing duties in the battle group radiological center.

The flame and smoke sections are the combat elements of the platoon.

The flame section is divided into two five-man squads, with each man, including the squad leader, armed with the portable, multi-shot flame thrower. These squads could be attached to leading elements in an attack to provide any burning required. In the defense they could add their fire to break up enemy counterattacks or exert additional psychological effects upon the enemy.

The smoke section of the Chemical Platoon consists of four two-man smoke generator teams, with

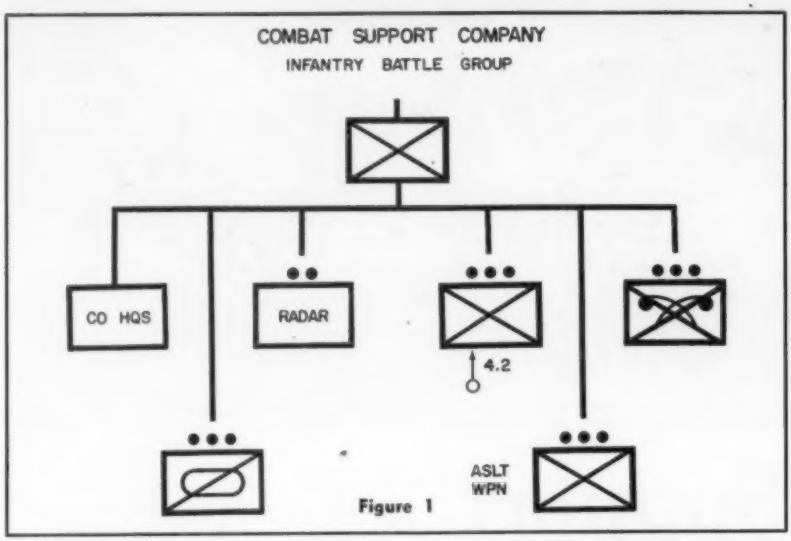


Figure 1

their generators mounted on ¼-ton trailers until a better cross-country vehicle is available. Each generator would have an assigned operator and an assistant who also functions as driver of the vehicle. When conditions demand, generators of the battle group may be augmented by those of the smoke Generator Battalion, organic to Army. Normally, however, four generators would be sufficient.

The decontamination and radiological squad of the proposed Chemical Platoon provides the battle group with five specialists in decontamination and radiological surveying and monitoring. The members of this squad would be attached to rifle companies if the enemy employed CBR agents. There, they could provide advice and assistance on up-to-date decontamination methods, use of field expedients in decontaminating personnel and equipment, and the impregnation of clothing for protection from CBR agents. They could also train new teams, provide assistance to company radiological survey teams, and function during a survey as supplementary radiological monitors.

There are many duties which the platoon leader, a Chemical Corps officer, could accomplish in his role as a special staff officer. He would act as battle group CBR officer, advising the commander on the employment of CBR weapons, including chemical mines. He could detect and identify enemy CBR agents. In the event of nuclear attack, he could prepare and maintain a fallout plot. It would be his responsibility to present training to the battle group on CBR subjects. He would also be well-qualified to prepare captured enemy chemical equipment for shipment to technical intelligence agencies. Thus, the benefits of having a Chemical Platoon are enhanced by the availability of the platoon leader to serve the battle group as a special staff officer.

Some Infantrymen still feel that furnishing the battle group with a Chemical Platoon is unnecessary. However, I believe that upon initiation of CBR warfare, a unit of this type would almost certainly be "crammed" into the battle group structure on a crash basis, because the need for such a unit would soon become apparent. We now have the time to properly organize and field test a Chemical Platoon, eliminating problem areas as they arise. If we refuse to believe that CBR warfare is a very real possibility and hesitate too long before adopting this concept, we are deluding ourselves, perhaps fatally. Chemical warfare will play an important part in any future conflict, and the Infantry battle group must have specialized chemical support.

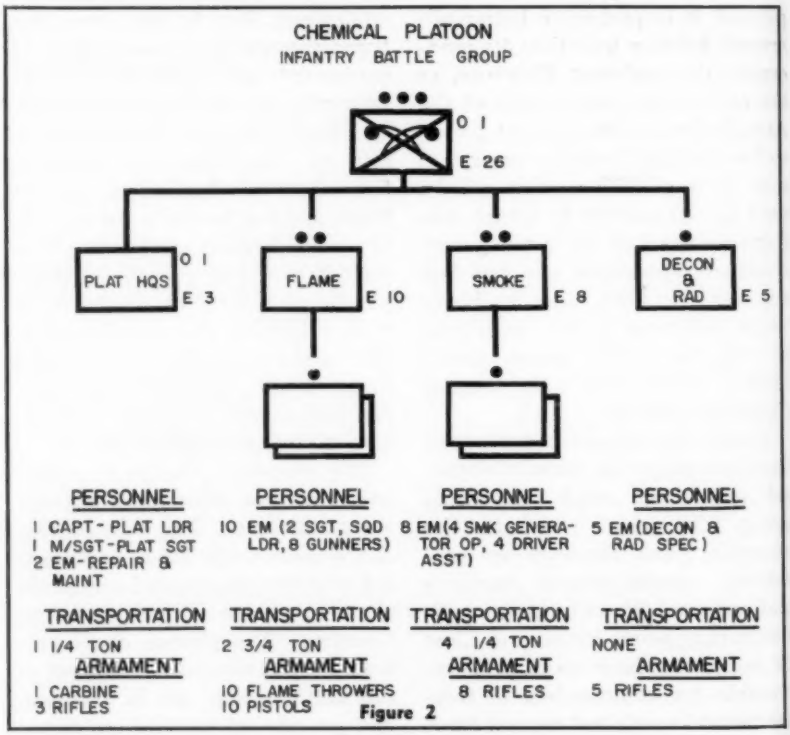


Figure 2

# GOING TO KOREA?

## Some personal ideas about how to go

Capt Dudley L. Fry, Jr.

EVERY DAY, soldiers, both enlisted and commissioned, arrive in Korea unprepared for their new tour of duty. These soldiers find themselves living out of a suitcase for several weeks, for they lack certain items of clothing, spending money, and items sent in their hold baggage. Furthermore, they usually have financial and personal problems in addition. All of these problems could be avoided with the proper planning beginning prior to departure when orders to Korea are first received.

After several months in Korea, I have found that the following items cause the most problems:

- The average soldier receives his hold baggage four to eight weeks after his arrival in Korea.
- Travel pay is received one or two weeks after arrival, depending on the work load in Finance.
- Quartermaster sales stores are few and far between. Although there is a mobile "store" which stops at most units, it has limited stocks and does not have all sizes of clothing.
- Most post exchanges have a limited supply of uniform accessories. Many of these are made in Korea and are not always of the same quality as those manufactured in the US.
- Banking facilities are almost non-existent.
- Air mail takes from three to four days, regular mails from four to seven weeks. It will usually be from 10 to 12 days before you receive your first mail.
- Civilian clothes are not worn by U.S. military personnel in Korea.
- Personal belongings have a tendency to disappear. Do not carry large amounts of money, and take extreme care to safeguard all personal property.
- There is a limited supply of the latest reference material such as FMs, ATTs, and O&T handbooks. If you are interested in any of the newer publications, take your own.

Upon receiving orders to Korea, you should immediately plan on shipping part of your hold baggage. You can make more than one shipment of hold baggage, so don't wait until just before your departure and ship all of it at one time. By shipping part of your hold baggage as soon as you receive orders, you give some necessary items a 60 to 90-day head start, and they should be in Korea waiting for you when you reach your assigned unit. This early shipment should include uniforms (several sets of fatigues, under garments, socks, towels, uniform hats, boots, khakis and a field jacket—if you arrive in the summer). Incidentally, the new thermo undergarments are highly recommended, but are very hard to obtain in Korea. Your final shipment should include your dress uniforms, the remainder of your duty uniforms, civilian clothes to wear on R&R, and such personal items as radios, books, slippers, and pictures. Do not ship a complete civilian wardrobe, as you cannot wear civilian clothes in Korea, and you won't need a complete wardrobe on R&R. Many of the men prefer to ship one suit and then purchase some tailored suits in Japan.

When you send your first shipment of hold baggage, you should remember that you are allowed to carry with you, when you go, a total of only 65 pounds. If you wear civilian clothes to the port of embarkation, I recommend shipping them home, as you are required to wear uniforms in transit, and your allowable 65 pounds should be utilized for necessary items. The baggage you carry with you may have to last you for a month unless you plan to purchase uniforms upon your arrival. And remember, you might have difficulty in obtaining your correct size. Include in your baggage a pair of boots, three sets of fatigues, and two or three sets of khakis if you arrive during the summer season. Socks, towel, underwear, shaving gear, and those personal items you consider essential should be carried with you. You will be wearing your class A uniform, and it will be sufficient until your hold baggage arrives. I also recommend that you carry a raincoat for the summer months and an overcoat for the winter.

Include in your hold baggage a supply of uniform accessories such as rank insignia, both cloth and metal, cloth jump wings, name tags, cloth branch insignia, US Army tags, and shoulder boards for dress blues. Although these items are available in Korea, most of them are not American-made, are often inferior, and cost more than those made in the United States. I also recommend the wearing of QM boots rather than the popular jump boots, for jump boots do not wear well in the rocky terrain of Korea.

Bring with you, in the form of travelers checks or personal checks, sufficient money to last one month —a minimum of $100.00. If you plan to utilize a checking account, arrange before you depart to have your pay check mailed to a bank of your choice. Also, arrange any allotments as soon as you receive your orders to Korea. Don't wait until you depart. Remember, your financial processing may take several weeks. Don't plan on sending your family any money as soon as you arrive. Instead, either leave sufficient money to last at least a month, or arrange for an allotment before you depart.

Korea is an "undesirable" assignment. Don't make it worse by neglecting your personal problems before departure.

# WHAT'S NEW FOR INFANTRYMEN

## M55 WEAPONS SYSTEM

The M55 Weapons System, recently developed by the U.S. Army, can fire a rapid salvo of 45 rockets. It takes advantage of the scatter characteristics of multiple-launch rockets to disperse chemical agents over a wide area. The light weight, mostly aluminum M55 is easily transported by helicopter and may be assembled manually. A rocket crew can assemble, load and fire the weapon in less than 20 minutes. The U.S. Army Chemical Corps, Ordnance Corps and the contractor, Arthur D. Little, Inc., of Cambridge, Mass., cooperated to develop the new system.

## 5 KW GENERATOR

An improved 5 KW generator set, shown here centered between the models used in World War II, left, and in Korea, right, has been developed by Army Engineers.

The new set is designed for use under every condition experienced by Army tactical units. Power produced is of the quality needed for operation of communication, surveillance and missile systems. In addition, the generator may be used as a power supply for lighting systems, water supply equipment and Engineer equipment tool sets.

## INFRARED FOR TANKERS

Searchlights, periscopes and binoculars which will enable tank operators to observe the enemy at night by using either visible or infrared light are under development, according to Department of the Army.

In past wars, armored night attacks seldom have been employed because of inability of crews to see. Now night operations will become increasingly necessary in the event of a future war, since nuclear weapons and advanced surveillance techniques make daylight operations more difficult. These night-sighting aids will give tanks the capability of capitalizing on the hours of darkness.

## PORTABLE X-RAY

Development of a compact field X-ray unit which can be carried in a medium-sized suitcase has been announced by the Department of the Army.

Until now, medical units in combat theaters have had to use a unit weighing approximately 1000 pounds to achieve results comparable to those obtained with the new 85-pound X-ray.

## ALL-PURPOSE SURVIVAL FOOD PACKET

A light-weight, all-purpose survival food packet, designed for emergency use in any combat situation anywhere in the world, has been developed by the Army Quartermaster Corps.

Known as the "All-Purpose Survival," the new food packet is based on food bars of uniform nutrient

composition, which may be bacon or cheese-flavored, wheat cereal, cornflake, fudge or fruitcake. Its adoption will eliminate the present Arctic and Tropic Survival food packets from the supply system.

## WATER DECONTAMINATION

Infantrymen on the nuclear battlefield will not be faced with the problem of contaminated water, according to the Corps of Engineers. Three methods of removing radioactive contaminants from drinking water supplies have been tested, all successfully.

With the safe emergency contamination level being 300,000 units (micro microcuries per liter), the three methods tested produce water with levels of 5000, 2000, and 830 units.

One of the systems, the ion exchange process, is a self-contained unit mounted on a standard 2½ ton truck chassis, giving it the mobility required of all modern equipment.

## XM79 GRENADE LAUNCHER

A new grenade launcher, the XM79, which is capable of destroying enemy machinegun nests, bunkers and small troop concentrations out to a maximum range of 400 meters has been developed by the Army. The new 40-millimeter weapon will supplement the M-14 rifle and the M-60 machinegun.

The launcher system consists of a light-weight (6-lb.) launcher and a nine-ounce round of high explosive ammunition. It will give the individual soldier an area fire capability between the maximum range of the hand grenade and the minimum range of the mortar.

## XM 410 TRUCK

The XM 410 lightweight amphibious truck, currently undergoing testing, is shown here as it leaves a lake during a recent demonstration.

## RADIO CENTRAL

Procurement of a newly developed front line telephone service without wire lines and cables has been announced by Department of the Army. The system will provide radio service to battle areas similar to conventional telephone service. The radio central — VHF transmitters — will be mounted in a weapons carrier on a ¾-ton truck. Subscriber stations — transmitters and receivers — will be installed in jeeps or armored personnel carriers.

The new system fully exploits the latest techniques, and can transmit and receive voice, facsimile and teletype messages. The first of the units will be delivered to the Army Signal Corps in 1961.

# Breaking The Sound Barrier

Capt Leon McCall, Jr.

SINCE ITS inception in 1941, when 60 students used an abandoned hangar with orange-crate desks, the Army Language School has grown in size and fame until those first graduates wouldn't recognize their "Alma Mater" today.

Using the latest techniques in closed-circuit television and film training aids, the school teaches 28 languages to a student body of more than 2000 officers, NCOs and men of the Army, Navy, Marine Corps and other government agencies. These languages represent 75% of the world's people, and at the Presidio of Monterey our country is doing everything it can to "break the sound barrier" between itself and other nations of the world.

A brief look at the school organization and the conduct of the instruction might help to recruit some new students for the Army's "Tower of Babble."

The phenomenal success of the school in teaching people to speak a second language is due to four basic factors. (I say phenomenal success because recently its 25,000th student was graduated.) The factors are not revolutionary, but their application here constantly produces men with a sound working knowledge of a second language.

First, there is the administrative organization of languages into like groups. The school is organized into four major groups: West and South Europe, Middle and East Europe, Far East, and East Slavic. Under these divisions are the language departments peculiar to the geographic area implied by the division title. One language comprises one department.

The second factor is the care with which instructors are selected. The most important qualification required of each instructor applicant is that he be a native of the language country or that he has learned the language as a first tongue in the secondary school system of the country.

Naturally, not all of the applicants selected are professional teachers. However, after an intensive course in methods of instruction, those who had never faced a class before rapidly become the perfectionists that the school demands.

Among the more than 400 faculty members are former poets, journalists, soldiers, engineers, and politicians. For instance, there is Mr. Wladyslaw J. Grymala-Siedlecki of the Polish Department. After receiving his Master of Arts from the Sorbonne, he was employed by the Polish Ministry of Foreign Affairs. Later he was assistant keeper of prints and drawings at the British Museum in London, and recently was made an honorary member of "The Order of the British Empire."

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CAPT MCCALL received his commission from the Citadel in 1950. He has been assigned as a company commander with the 2d Division in Korea. He later served as an aide to both Gen Herbert B. Powell and Lt Gen Paul L. Freeman Jr. A graduate of the Advance Course, Captain McCall is now a student of the French Department, USALS, Monterey, Calif.

An officer in the Russian class practices writing

Students of Polish practice pronunciation

**Students of German take part in an interpreting exercise**

Another example is soldier-turned-teacher Harry P. Talbot. Born in Shwebo, Burma, he served in the army of that country until his retirement in 1955 as a Lieutenant Colonel. Mr. Talbot is presently Chairman of the Burmese Language Department.

These two typify the caliber of the personnel who painstakingly demonstrate how to manipulate tongue and jaw so that the correct sound is always produced.

After making strange and unfamiliar noises during my initial attempts to "parlez Francais," I was convinced that any sound I made meant something in some language somewhere. My problem was to find the right course. Unfortunately, the sound must fit the language, not the language fit the sound.

The instructors are marvels at putting across a meaning to the student. The other day, while conjugating the verb "to drink," our instructor cupped his hand, simulated a swallow and said in his mother tongue, "I drink." As he proceeded, he acted increasingly intoxicated until the class was in tears from laughter. Who will forget the verb or the performance?

The method of instruction, called the Audio-Lingual Method, is the third factor for success. In simpler terms, this means that emphasis is on the spoken word rather than the written word. Listen and repeat, listen and repeat, until the sound can be reproduced automatically. There is some reading, writing, and grammar, but always the primary emphasis is on speaking.

The course is divided into three phases, the first being the pronunciation phase. During this phrase proper pronunciation is learned by mimicking the instructor. Written words are not used initially. Only after each student can correctly reproduce all the sounds of his language does he see the printed word.

At home, during the required three-hour nightly study session, tape recorders assist in further pronunciation practice. Students and recorders are constant companions in the effort to sound like a native instead of a sea lion at home in Monterey Bay.

Each lesson is in the form of dialogue — questions and answers which must be presented from memory during the first hour of class the following day. Each of these dialogues is made up of complete and meaningful sentences dealing with everyday social and military occurences. Thus, from the

**Students in the language laboratory utilize tape recorded lessons for pronunciation practice.**

start every sentence is a usable one. This, then, is the final factor — hard work on the part of every student.

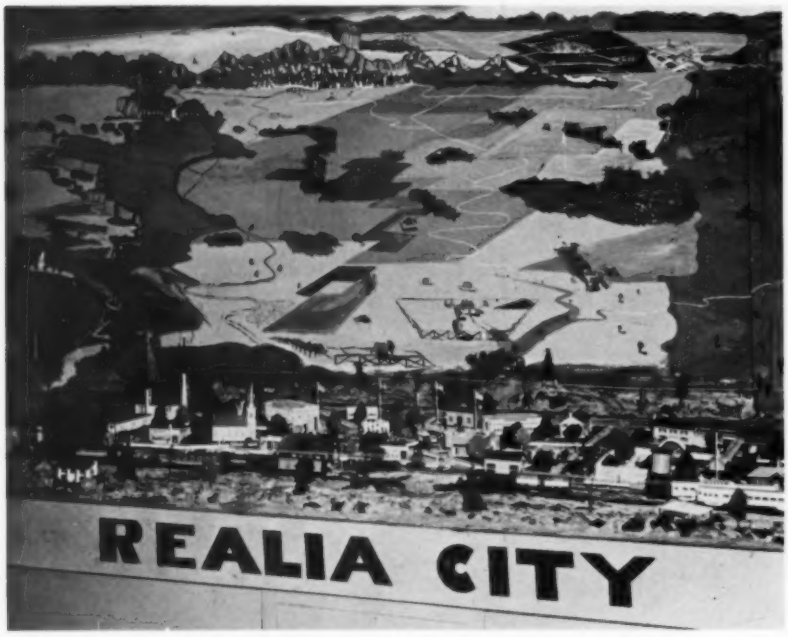
Each hour in class is conducted by a different instructor. This is done to accustom the student to slightly different accents and intonations. No matter which teacher is in charge, it is drill, drill, and drill. Everyone receives his full share, since there are only eight students in any one section. This constant drill is necessary because language is a muscular skill and as such must be practiced until the proper sounds are reproduced by habit.

The system may sound dull, and it could be except for the ridiculous mistakes that continually crop up in class sessions. Just the other day I called my wife "a house" and then went to town for a horsecut instead of a haircut.

In progressing into the last two phases, structural drill and application, more training aids are used. By using closed-circuit TV, one training film may be shown to as many as five classes at the same time, each class hearing the dialogue in the language it is studying.

Student and wife take part in a Japanese dinner with instructor

"Realia" rooms have in them reproductions of homes or towns to give the student a knowledge of appearance and customs. Finally, participation in skits and in free conversation becomes routine. Field trips to homes, shops, and restaurants in the surrounding area serve to increase skill and confidence. No matter what the exercise, sharp-eared instructors are quick to catch a misplaced word or a bungled syllable.




One of the *Realia Cities* found in each division of the school

As in all schools, examinations are used to test progress. The only grades given are satisfactory or unsatisfactory, with special comment on any weakness that needs attention. If assistance is needed, a civilian advisor gives it. This advisor is one of the instructors assigned to counsel, assist, and generally "bird-dog" a class.

An extra bonus for all the hard work is that credit may be awarded toward a Bachelor Degree. The National Association of Colleges and Universities recommends that its member institutions give up to 26 semester hours of credit to the graduate who applies for this recognition.

Language training is not designed to produce linguists and interpreters *per se*, but to put another weapon in the Infantryman's personal arsenal, a weapon that can insure the "sound barrier" will never be an obstacle to getting the job done.

## MONTHLY LIST OF INSTRUCTIONAL MATERIAL

*The Monthly List*, reproduced here as a reader service, is an official publication of the Infantry School, and is produced to facilitate coordination of Infantry doctrine among Army service schools and to offer Infantry School instructional materials to Army agencies which conduct, support or monitor school-type instruction. It is distributed under provisions of USCONARC Regulation No. 310-2, 30 August 1960. Each authorized addressee is furnished one gratuitous copy of any listed item specifically requested for official use.

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Items without asterisks are produced for resident instruction at the Infantry School and are not available for purchase. However, a unit or agency having a strong official need for any item may request a gratuitious copy from the Editorial and Pictorial Office, USAIS, Ft. Benning, Ga. Requests must state the purpose for which the material is needed and must include the official title and unit or agency address of the requester. Properly justified requests will be filled as long as the supply lasts.

***Defensive Day Instruction Firing**, 1272A-USAR(ADT). Integrated conference and practical exercise wherein students are taught the techniques necessary to apply and control squad defensive fires at night without the use of artificial illumination, using the weapons organic to the rifle squad. $.20

***Squad Defensive Night Application Firing**, 1274N-USAR (ADT). Integrated conference to review the principles and techniques taught during instruction firing, and a practical exercise in the application of the techniques whereby difficulties encountered in squad defensive firing at night, without artificial illumination, will be overcome. $.10

***Squad Assault Night Firing**, 1280NA-USAR(ADT). Integrated conference, demonstration and practical exercise to present the difficulties encountered by a rifle squad in the night assault and the methods used when teaching Squad Assault Night Firing. The development of techniques that will overcome these difficulties and enable rifle squads to conduct a successful night assault. $.10

***Tank Gunnery**, 1767B-USAR(ADT). Integrated conference and demonstration covering the general characteristics, capabilities, and limitations of the weapons and fire control instruments of the 90mm M48, 90mm full-tracked M56, and 76mm gun, tank, M41, to include the characteristics and capabilities of the ammunition and familiarization with techniques of direct fire. $.20

***SS-10 Antitank Guided Missile Familiarization**, 1831-USAR(ADT). Integrated conference and demonstration covering the background, organization, nomenclature, and technique of fire of the antitank guided missile (ATGM) system. $.15

***Fundamentals and Theory; Map and Aerial Photograph Reading**, 2194-USAR(ADT). Conference and practical exercise covering military symbols, universal transverse Mercator (UTM) grid; distance; grid magnetic (GM) angle; polar coordinates; intersection; resection; methods of showing relief and elevation; characteristics of contour lines; use of an aerial photograph as a map supplement or a map substitute. $.25

***Ground Navigation**, 2195-USAR(ADT). Conference and practical exercise covering use of a topographic map in the field; principles and techniques of ground navigation by use of terrain features; and a practical exercise involving the procedures of locating points on the ground and on the map by study of terrain features and contour lines. $.25

***Role of the Infantry**, 6005-A1-USAR(RDT). Lecture covering the importance of ground forces, the character of future warfare, and the status of the Infantry now and in the future. Emphasizes the ability of the Infantry to seize and hold ground and its resulting decisive role in warfare. Considers the effect of new developments on Infantry tactics and techniques, covering such innovations as nuclear weapons and helicopters. $.10

***Principles of War**, 6010-A1-USAR(RDT). Integrated conference and practical exercise which covers the nine principles of war. Each of the principles is illustrated and explained by the use of examples. The effect of nuclear weapons on the application of the principles of war is discussed. $.25

**Combat Intelligence**, 6206-B3. Conference and practical exercise covering the production of combat intelligence to include the application of the elements (weather, terrain and enemy); technique of collecting and reporting information; and the basic processing and analysis of information.

**Battle Group Map Maneuver**, 6382-A16. Map exercise (Maneuver, two-sided, partially controlled) in which students are divided into player groups and an umpire section. Each player group is organized into a battle group commander and staff. Problem encompasses the following: formulation of attack, defense and retrograde plans; issuance of orders; employment of supporting arms; staff functioning and conduct of operations.

***Commanders Handbook for Preventive Maintenance**, 1960. Provides reference material for study by officers or noncommissioned officers interested in improving their professional qualifications in the field of motor vehicle maintenance and operation. $1.60

**Handbook, Personnel Management.** Implementation of the five principles of personnel management for the maximum efficient utilization of military manpower.

## TRAINING FILMS

The following training films have been approved for release to requesting units:

R&D #14, Army Research and Development—Film Report No. 14 (U), Color, 28 minutes.

MF 11-9213, The Mechanization of Crystal Units Manufacture, 42 minutes.

MF 11-9263, Manage Your Career (The U. S. Army Civilian Career Management Program), 30 minutes.

MF 20-9281, Operation Abolition, 43 minutes.

MF 45-9500, Snodgrass Task Force, Color, 11 minutes.

TF 3-2871, Decontaminating Procedures For Toxic Chemical Agents, 23 minutes.

TF 3-3018, Mechanical Smoke Generator M3A3, Assembly, 10 minutes.

TF 3-3019, Mechanical Smoke Generator M3A3—Disassembly, 10 minutes.

TF 5-2876, Camouflage—Part I, Color, 28 minutes.

TF 6-2875, Artillery Battalion Survey—Part II—Planning and Execution, 21 minutes.

TF 8-2588, First Aid—Part III—Burns, Color, 14 minutes.

TF 9-2970, U. S. Rifle, Cal. 7.62mm, M-14—Operation and Cycle of Functioning, 28 minutes.

TF 11-2867, Erecting Large Poles, 21 minutes.

TF 16-2983, Character Guidance Instruction—Part I—Teaching Techniques, 15 minutes.

TF 16-2984, Character Guidance Instruction—Part II—Demonstration Class, 21 minutes.

TF 16-3068, One Nation Under God, 13 minutes.

TF 17-2942, Range Finder M13A1—Part I—Characteristics and Controls, 22 minutes.

TF 17-2943, Range Finder M13A1—Part II—Preparation for Ranging, 20 minutes.

TF 17-2944, Range Finder M13A1—Part III—Boresighting and Zeroing, 17 minutes.

TF 30-2990, Strategic Intelligence School—Area Film Studies Number 4—Africa, 28 minutes.

TF 44-2860, Nike Hercules Sam Battalion—The Firing Battery in Operation (U), 25 minutes.

TF 44-2941, Nike Ajax Battery, Alert Status Checks and Adjustments—The Tracking Radars, 20 minutes.

TF 44-2948, Nike Hercules Radar Test Set—Part II—Measurement and Adjustment of Transmitter Frequency (U), 5 minutes.

TF 44-2949, Nike Hercules Radar Test Set—Part III—Measurement and Adjustment of Oscillator Power and Frequency, 7 minutes.

TF 44-2963, Nike Ajax Radar Test Set—Part IV—Angle Sensitivity and Range Rate, Checks and Adjustments (U), 6 minutes.

TF 46-2985, Army Aircraft Gas Turbine Engine Operation—Part I—Principles of Operation, 13 minutes.

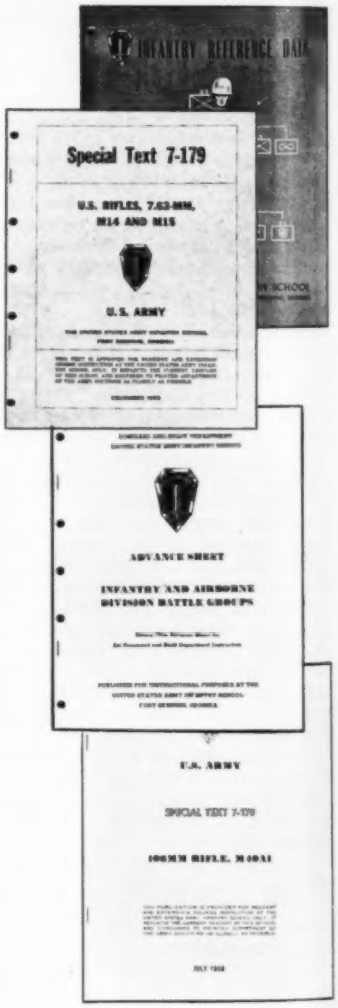
TF 46-2987, Army Aircraft Gas Turbine Engine Operation—Part III—Construction and Operation of the T-53, 15 minutes.

TF 46-2997, Helicopter Flight with External Loads, 21 minutes.

## TRAINING LITERATURE

FM 57-35, Airmobile Operations
TM 57-210, Air Movement of Troops and Equipment
TM 57-220, Technical Training of Parachutists, C2
ROTCM 145-30, Individual Weapons and Marksmanship, C1
ROTCM 145-41, Crew-served Weapons and Gunnery, C1

# READING MATERIAL TO KEEP YOU UP TO DATE




## ADVANCE SHEETS:

| | |
|---|---|
| Infantry and Airborne Div. | $1.25 |
| Rifle Company, Infantry and Airborne Div. | $1.00 |
| Combat Support Company, Infantry Div. | $1.00 |

## SPECIAL TEXTS:

| | |
|---|---|
| 23-92-1, 4.2 Inch Mortar Gunnery | $2.00 |
| 7-178, 106mm Rifle M40 A1 | .50 |
| 7-179, U.S. Rifles, 7.62mm, M14 and M15 | .45 |
| Infantry Reference Data | $1.20 |

## HANDBOOKS:

| | |
|---|---|
| Instructors | $1.00 |
| Operations & Training | $1.75 |
| Supply & Property Accounting Procedure (ROCID) | $1.40 |
| Infantry Division, Battle Group Organization | .50 |
| PM Indicators, Infantry Division Battle Group | $1.00 |
| Standing Signal Instructions (SSI) July 1961 | .70 |

**The Book Dept, U.S. Army Infantry School, Fort Benning, Georgia.**

**Send order with full purchase price plus 5% for purchases over $5.00, or a minimum of $.25 for postage and handling charges.**

# TRICKS OF THE TRADE

## WATERPROOF MAP

SFC Walter H. Bruce

The ingenuity of the foot soldier is boundless when it comes to devising field-expedient means of accomplishing a task where there are no set rules or instructions to follow. Evidence of this has appeared many times recently in *Infantry's* "Tricks of the Trade."

**Lacquer may be applied by spraying**

One particular problem, along with various attempts at solutions, has appeared regularly, but apparently still requires solving: how can small unit leaders and forward observers protect issue maps from wear and weather and yet still have the finished product in a form where it can be conveniently carried on the person?

Although plastic and acetate coverings have improved upon what we had (nothing), it is often difficult to obtain these materials, and the expense in fabricating them in large amounts makes the whole effort almost prohibitive.

There is one little-publicized method which will satisfy all the requirements for protecting field maps and add months to their normal period of use. In addition, it is very simple and the materials required may be obtained from QM stocks.

- First, obtain a quart of clear lacquer, enough for 30 map sheets, and a good quality brush or spray gun. (At your QM Self-Service Supply Store, ask for Lacquer, Clear, Brushing, stock number 8010-166-1688. Its current price is 53¢.)
- Lay map sheets to be treated on a flat surface and apply an even coat of lacquer by spraying or brushing. (Note: Do not apply lacquer in a closed area.) Normally two coats will be sufficient for average use. For anticipated heavy use, additional coats may be applied.

Approximately 10 minutes is required for each coat to dry. Therefore, the entire operation should not take more than 30 minutes to complete.

After the described treatment, the map sheet is waterproof. It can be rolled, folded or wrinkled and will still maintain its appearance and shape. Grease pencils may be used for marking on the map and are easily erased.

**. . . . or by brushing.**